

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
<p>The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p> <p>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.</p>					
1. REPORT DATE (DD-MM-YYYY)		2. REPORT TYPE		3. DATES COVERED (From - To)	
28May21		Master's Thesis		03Aug20 - 28May21	
4. TITLE AND SUBTITLE POST-COVID EUROPEAN STRATEGIC OPPORTUNITIES: AN INQUIRY INTO STRATEGIC 'GREAT POWER'				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Crain, Bradford P, CAPT, USN				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Joint Forces Staff College Joint Advanced Warfighting School 7800 Hampton Blvd Norfolk, VA 23511-1702				8. PERFORMING ORGANIZATION REPORT NUMBER JFSC	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution is unlimited.					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT In the Post COVID-19 pandemic strategic environment, the virus's influence on European strategic factors of the economy, political unity, and human security indicate vulnerabilities in the European cooperative security environment. These conditions offer the Russian Federation a rare strategic opportunity. The US strategic approach toward Russia has changed since Russia adopted a more aggressive, opportunistic, and risky strategic approach. Additionally, because of the ubiquitous nature of the COVID-19 virus, Russia may realize it has a rare opportunity in the European strategic areas of interest to disrupt the institutions and organizations that prevent Russia from achieving its strategic objectives to erode the United States' global influence. This study examines the strategic factors that indicate how COVID-19 has changed the European strategic environment. Current trends in the Euro-Atlantic strategic environment point towards a need to support and sustain the alliance from strength without which the US may give Russia a strategic advantage to destroy modern Europe's bedrock institutions and isolate the US from Europe.					
15. SUBJECT TERMS COVID-19, Euro-Atlantic Alliance, European Union, Russian Federation, Common Security and Defense Policy, Permanent Structured Cooperation, NATO, European Intervention Initiative, Sovereignty, Strategic Factors					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Dir Joint Advanced Warfighting School (JAWS)
Unclassified	Unclassified	Unclassified	Unclassified Unlimited	103	19b. TELEPHONE NUMBER (Include area code) 757-443-6124

Reset

Standard Form 298 (Rev. 8/98)
Prescribed by ANSI Std. Z39.18

Page Intentionally Left Blank

NATIONAL DEFENSE UNIVERSITY
JOINT FORCES STAFF COLLEGE
JOINT ADVANCED WARFIGHTING SCHOOL



**Post-COVID-19 European Strategic Opportunities:
An Inquiry into Russian Federation Strategic 'Great Power'**

By

Bradford P. Crain

CAPTAIN, USN

This work may not be used for commercial purposes without the express written consent
of the author.

Page Intentionally Left Blank

**Post-COVID-19 European Strategic Opportunities:
An Inquiry into Strategic 'Great Power'**

By

CAPT B.P. Crain

A paper submitted to the Faculty of the Joint Advanced Warfighting School in partial satisfaction of the requirements of a Master of Science Degree in Joint Campaign Planning Strategy. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Joint Forces Staff College or the Department of Defense.

This paper is entirely my own work except as documented in footnotes.

Signature:  CAPT, USN

B.P. Crain, CAPT, USN

28May2021

Thesis Advisor:

Signature: 

K.D. Dickson, PhD

Professor of Military Studies

Approved by:

Signature: 

S. Rogers, COL, USA

Military Faculty

Signature: 

M.L. Peko, CAPT, USN

Director, Joint Advanced Warfighting

Page Intentionally Left Blank

ABSTRACT

In the Post COVID-19 pandemic strategic environment, the virus's influence on European strategic factors of the economy, political unity, and human security indicate vulnerabilities in the European cooperative security environment. These conditions offer the Russian Federation a rare strategic opportunity. The US's predominant approach toward the Russian Federation has been to attempt to build deeper partnerships and include the federation in the international order as an effective partner.

However, the US strategic approach toward Russia has changed since that country adopted a more aggressive, opportunistic, and risky strategic approach. Additionally, because of the ubiquitous nature of the COVID-19 virus, Russia may realize it has a rare opportunity in the European strategic areas of interest to disrupt the institutions and organizations that prevent Russia from achieving its strategic objectives to erode the United States' global influence.

Recent US strategic approaches that focused on Russia as a potentially effective partner or rising great power rather than fortifying the European alliance have not effectively supported and stabilized US vital national interests. This study examines the strategic factors that indicate how COVID-19 has changed the European strategic environment. Current trends in the Euro-Atlantic strategic environment point towards a need to support and sustain the alliance from strength. Without focusing on strengthening and fortifying economic integration, recommitting to the enduring alliance, and reinforcing complementary security cooperation, the US may give Russia a strategic advantage to destroy modern Europe's bedrock institutions and isolate the US from Europe.

Page Intentionally Left Blank

DEDICATION

This thesis is dedicated to my wife, Jenny, and son Tyler. They have provided me an uncommon balance of patience, encouragement, and generosity throughout my career that is as limitless as the sea. During the academic year, they supported my exploration of ideas and how to express my own. I hope to reciprocate the encouragement and grace for them to explore their passions. Finally, I dedicate my work to the European colleagues I have served over the years who defend what Europe is and will become. *Si vis Pacem, Para Bellum.*

Page Intentionally Left Blank

ACKNOWLEDGMENTS

I would like to thank each of my Joint Advanced Warfare School academic year 2020–21 Seminar Four classmates and advisors. You each brought incredible energy and passion for exploring and collaborating in history, concepts, ideas, and culture to being a joint planner and strategist. Each of you has provided unique, invaluable, and enduring perspectives that have enriched my academic and professional journey. I am honored to have been part of your joint journey into operational art. “Ramble on!”

I am grateful to the staff and mentors that guided me through this process. Each of your contributions, from the librarians obtaining hard to find information no matter the resource like a Russian text from the Library of Congress, Mr. Turner’s straight forward, humbling, yet constructive feedback, the IT team being willing to make COVID learning possible, the building teams that keep the learning environment clean and in tip top shape, to Colonel Chris Rodgers, who has incredible patience and insightful Army dude who put up with a ‘tech challenged’, hard of hearing, stubborn old helicopter guy that can’t write so good.

Lastly, I am grateful to my advisor and mentor, Dr. Dickson. Your advice, insight, and writings challenged my thought framework with new perspectives and encouraged me to look through different lenses. Combined with your passion for knowledge through relentless self-study, for inculcating historical points of view through staff rides, and for stimulating the exchange of perspectives through the Great Books seminar, I am forever indebted.

Page Intentionally Left Blank

Table of Contents

Abstract	vii
Dedication	ix
Acknowledgments	xi
Table of Figures and Tables	xiv
Abbreviations	xv
Chapter 1: Introduction	1
Approach	2
Relevance	3
Methodology	4
Chapter 2: General Survey of the European Environmental Factors	6
Economic Strategic Factors	7
Sovereign-Debt	8
Economic Policy	9
Trade	12
Political Strategic Factors	14
Employment and Migration	15
Geopolitical	18
Populism	20
Military Strategic Factors	22
Summary	24
Chapter 3: Russian Federation—Thoughts, Motives, and Factors	25
Economic Strategic Factors	26
Economic Policies	27
Commodities	29
State-Owned Industry	30
Political Strategic Factors	31
Authoritarian Leadership	32
Social Enclaves, Domestic Autonomy, and Sovereignty	33
Geopolitical Great Power	34
Military Strategic Factors	36
Summary	37
Chapter 4: Factors, Discussion, and Recommendations	39
US Priorities, Interests, and Factors	40
European and Russian Federation Key Factor Analysis	41
Chapter 5: Conclusion	46
Appendix A: Economics	51
Appendix B: Social	74
Appendix C: Military	81
Bibliography	82
Vita	88

Table of Figures and Tables

Figure 1: Sovereign Debt-to-GDP Ratios Trend Over Last 30 Years. Source: Global Financial Stability Report. Bridge to Recovery.	9
Figure 2: Diffuse and Specific Support for Democracy. Source: European Values. Trends and Divides over Thirty Years.	19
Table 1. European Key Factors.....	24
Table 2. Russian Federation Key Factors	38
Table 3. European and Russian Federation Key Factor Analysis.....	42
Table 4. U.S. Strategic Factor Considerations.....	48

Abbreviations

AIIB	Asian Infrastructure Investment Bank
BRICS	Brazil, Russia, India, China, and South Africa
CSDP	Common Security and Defense Policy
CJEU	Court of Justice of the European Union
ECB	European Central Bank
EI2	European Intervention Initiative
EU	European Union
GDP (PPP)	Gross Domestic Product based on Purchasing Power Parity
GNI	Gross National Income
JOE	Joint Operating Environment
IGO/NGO	Intergovernmental Organization or Nongovernmental Organization
IMF	International Monetary Fund
NATO	North Atlantic Treaty Organization
NSS	National Security Strategy
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of Petroleum Exporting Countries
OSCE	Organization for Security and Co-operation Europe
PESCO	Permanent Structured Cooperation
SCO	Shanghai Cooperation Organisation
U.N.	United Nations
WHO	World Health Organization
WTO	World Trade Organization

Chapter 1: Introduction

*Force is never more operative than when it is known to exist but is not brandished.*¹
—Admiral Alfred Mahan

In the post-COVID-19 pandemic strategic environment, the virus's effect on political, economic, and social strategic factors indicates potential vulnerabilities in the European cooperative security environment. These conditions may offer the Russian Federation a rare strategic opportunity. This inquiry aims to provide insight into the implications of the Russian Federation's potential to seek a strategic advantage in Europe when the conditions become favorable due to a global pandemic that reveals economic, political, and military opportunities.

The question becomes, is the focus of the current national security strategy on great power competition either appropriate or effective in a changing European strategic environment against a potential Russian Federation attempt to gain a strategic advantage at the cost of American security? Framing the problem in the post-COVID environment while assessing key strategic factors indicate an opportunistic strategic stakeholder in a permissive environment, although with limited space, time, and force, could initiate enduring effects to its advantage. Because the Euro-Atlantic actors have been inwardly focused on COVID-19 mitigations and recovery, the alliance may not have the will or capability to respond quickly or proportionally enough to Russia's initiative to weaken overall stability and security. Simultaneously, the Russian Federation may perceive strategic opportunities and may have the will and the power to create decisive space in its

¹ Sven Biscop and Richard G Whitman, *The Routledge Handbook of European Security* (London, England: Routledge Taylor & Francis Group, 2013), 159.

favor. With 2019 identified as the 14th consecutive decline in collective freedom, the post-COVID environment could lead to further decline, leaving the U.S. at a significant and dangerous disadvantage.² In the post-COVID-19 era, the U.S. must consider and adjust its strategic approach to a unique, tailored, and sophisticated approach to fortify the transatlantic Alliance through support and sustainment.

Approach

This paper will explore the post-COVID-19 era great power environments focused on the Euro-Atlantic Alliance and the Russian Federation, framing the strategic environment focused through a lens of vulnerabilities and opportunities. The thesis will assess the strategic environment focused on a framework of strategic key factors to evaluate the European and the Russian Federation's strategic environment.³ This assessment will provide a means to broadly understand what effect COVID-19 has had on the strategic economic, social-political, and military key factors, the strategic environment in Europe, and national interests to propose how these could change the U.S. strategic approach to the Euro-Atlantic Alliance. Last, the assessment will provide a baseline of vulnerabilities and opportunities for planners to consider while shaping a new national security strategy bounded by the joint operating environment concept.

² Sarah Repucci, "Freedom in the World 2020: A Leaderless Struggle for Democracy" (Washington, DC: Freedom House, 2020), 1, https://freedomhouse.org/sites/default/files/2020-02/FIW_2020_REPORT_BOOKLET_Final.pdf; According to Repucci's report, 2019 marked the 14th consecutive decline in collective freedom, indicating democracy and institutions that support liberal democratic processes are under assault. In the post-COVID era, it is reasonable to assume the marked decline will continue as the strategic environment is under strain and could get worse with the right conditions or strategic shock.

³ Harry Yarger, *Strategic Theory for the 21st Century: The Little Book on Big Strategy*. (Letort Papers. Strategic Studies Institute, U.S. Army War College, 2006).

Relevance

The U.S. strategic concepts currently focus on a 15-year global campaign characterized as three great powers competing in an environment of contested norms and persistent disorder. The U.S. prioritizes China and then Russia challenging American power, influence, and interests while asserting that a strong and free Europe is vital to U.S. national security.⁴ It characterizes Russia as a force bent on reasserting itself as a great power to disrupt the EU, weaken the U.S. and its allies, and dissolve security organizations that threaten its ability to influence its global goals through a regional focus.

The COVID-19 pandemic has introduced uncertainty and ambiguity into the European strategic order, thus exposing and potentially amplifying Europe's vulnerability. The Russian Federation remains aggressive, recently prone to accepting higher political risk levels, and willing to take advantage of opportunities while the EU, U.S., and North Atlantic Treaty Organization face changing strategic conditions in Europe.⁵ This harkens back to an age when the Soviet Union was animated to impose its absolute power globally.⁶ Today, however, the U.S. has an opportunity to shape the post-COVID-19 strategic environment in its favor by crafting a comprehensive, deliberate, and integrated approach to ensure the Euro-Atlantic Alliance's stability and security.⁷

⁴ United States and Donald Trump, *National Security Strategy of the United States of America*, (The White House, December 2017), <https://history.defense.gov/Historical-Sources/National-Security-Strategy/>.

⁵ Claire Mills, "The European Intervention Initiative (EII/EI2)" (London, England: UK Parliament, House of Commons Library, September 23, 2019), <https://commonslibrary.parliament.uk/research-briefings/cbp-8432/>.

⁶ B Heuser, "NSC 68 and the Soviet Threat: A New Perspective on Western Threat Perception and Policy Making," *Review of International Studies* 17, no. 1 (1991): 8.

⁷ Keith Hartley and Jean Belin, *The Economics of the Global Defence Industry*, Routledge Studies in Defence and Peace Economics (New York, NY: Routledge Taylor & Francis Group, 2020).

Methodology

A general survey of the post-COVID-19 European strategic environment vulnerabilities yields economic, political, and military vital factors that impact European security. The study includes a comparative gap analysis of limited historical research covering relevant literature from the fall of the Soviet Union to identify vital factors to inform insights of critical European vulnerabilities and Russian Federation opportunities. Essential strategic factors were compared to U.S. interests in strategic documents to develop a problem statement supporting a new strategic approach to the Russian Federation and European Alliance.

An assessment of the EU sovereign debt from the economic recession of 2008 to the COVID pandemic, economic policies, and global trade factors identify key vulnerabilities in the European strategic environment. Additionally, the COVID pandemic-related challenges exacerbate EU supranational interests in conflict with European state sovereignty and interests, policy implications related to employment and migration, and the risks of nationalist or populist movements isolating the U.S. from Europe. Last, an EU global security strategy assessment reveals factors impacting the NATO alliance and implications of European autonomy on Euro-Atlantic security and NATO.

From a Russian Federation perspective, an assessment of the strategic environment key factors reveals economic, political, and military opportunities a strategic-minded Russian Federation would leverage to achieve its strategic goals. These include disrupting the market-based EU economy leveraging fiscal alternatives to the established institutions, transactional negotiations leveraging essential commodities, and leveraging state-owned centrally-controlled industry opportunities with strategic partners.

Politically, Russia's strategic approach to isolate the U.S. from its traditional European alliance relies on centralized control by an authoritarian regime that advocates its regional interests, simultaneously censures individual states' interests, and promotes its standing in international organizations as a legitimate superpower. Last, Russia's approach to shatter and disband NATO includes increased use of gray zone tactics combined with new capability aimed at the Euro-Atlantic security alliance's legitimacy. These factors aim to deteriorate and isolate the U.S., NATO, and Europe by exploiting the post-COVID-19 strategic environment's conditions.

Although this study is limited to vulnerabilities and opportunities due to length limitations, it aims to inform a U.S. strategic approach that moves away from a great power strategy to a European-focused strategy to strengthen the alliance through support and sustainment focused on the significant issues in the economic, political, and military domains. Does a fundamental question become, What if the U.S. fails to address the Russian Federation's intentions? What would be the strategic impact of a disrupted EU, a dissolved NATO, and a U.S. isolated from its long-established European alliance? The U.S. must focus on a strategic approach that opposes or withstands the deliberate and aggressive malign Russian Federation's activities. Russian Federation activities are predominately focused on delegitimizing the time-tested legitimate world order. To assure U.S. and European vital interests, strategists must strengthen and fortify economic integration, recommend transatlantic alliance sustainment and support, and reinforce complementary security cooperation.

Chapter 2: General Survey of the European Environmental Factors

Never let a good crisis go to waste.¹
—Winston Churchill

A general survey of trends and conditions of the European post-COVID-19 era reveals a general weakening in all facets of the economy, social construct, and governments. What started as a health crisis quickly evolved into an economic crisis that soon became a social and political crisis.² Finding the right balance of economic factors to leverage will be essential to the COVID recovery, but policymakers face serious liquidity challenges. The liquidity challenges are worsened by a combination of residual effects of fiscal and monetary policy decisions following the 2008 financial recession resulting in all-time high sovereign debt and dynamic shifts in trade sectors across the global value chains.³

Additionally, social-economic factors widen gaps between the haves and have-nots across all aspects of European life, exacerbated by long-term unemployment and internal migration. While social-economic elements deepen tendencies toward nationalism in struggling regions, European states' sovereignty and vital interests are in tension with supranational interests. High levels of sovereign debt, growing trade imbalances, and lack of coherent social policies all bring to question government

¹ Guillaume Gruère, "Never Let a Good Water Crisis Go to Waste," www.oecd.org, *Opinion* (blog), March 21, 2019, <https://www.oecd.org/agriculture/never-waste-a-good-water-crisis/#:~:text=As%20Winston%20Churchill%20was%20working,good%20crisis%20go%20to%20waste%E2%80%9D>.

² "Searching for Meaning: The Covid-19 Pandemic Puts Pressure on the EU," *Economist*, May 14, 2020, <https://www.economist.com/briefing/2020/05/14/the-covid-19-pandemic-puts-pressure-on-the-eu>.

³ "World Economic Outlook. A Long and Difficult Ascent," Annual (Washington, DC: International Monetary Fund, October 2020), xiii–xiv, <https://www.imf.org/en/Publications/WEO/Issues/2020/09/30/world-economic-outlook-october-2020>.

legitimacy, and faith in the liberal rules-based international order and question the best approach to support collective defense and security. As a result, European governments have focused on devising a global security strategy, establishing European autonomy and sovereignty, and potentially turning away from traditional security relationships and alliances to ensure state survival, revealing a rare convergence of strategic vulnerabilities.

Economic Strategic Factors

What started as a health crisis quickly evolved into an economic crisis and is the primary consideration that impacts the social and political turmoil. Policymakers across the globe face serious liquidity challenges. A critical strategic factor is a combination of residual effects of fiscal and monetary policy decisions following the 2008 financial recession that worsens European sovereign liquidity status. All-time high sovereign debt leads to a lack of sovereign liquidity and fewer economic options to adjust to dynamic shifts in trade sectors regardless of policy across the global value chains in a region accustomed to moderate to good economic conditions.⁴

A standard metric for comparing economic performance is using Gross Domestic Product Purchasing Power Parity as an economic framework lens. Europe has had a historically strong performance over the last three decades. However, since 2008, the European economic conditions have been weakened by a sovereign debt crisis, underlying employment and participation issues, and the consequences of a dynamic and adaptive global value chain.⁵ Different economic frameworks, such as Gross National

⁴ “World Economic Outlook: A Long and Difficult Ascent,” xiii–xiv.

⁵ See Appendix A1, IMF Global Stability–GDP Growth Rates, indicating broad global growth and highlighting two significant economic shock events in close proximity. Additionally, Appendix A2, GDP-PPP U.S., R.F., China, and EU, indicates general European GDP-PPP trends in the rest of the world’s comparable regions.

Income, reflect another picture of the European economic landscape with diverse sources of income generation and potential wealth disparity.⁶ Although the EU generally applied the lessons from the 2008 recession to deleverage financial institutions, the World Trade Organization still scrutinized highly leveraged states for their dependency on complicated financial tools to facilitate lending that did not improve growth or curb the first contraction of trade since the financial crisis.

Sovereign Debt

Although the EU rebounded from the 2008 financial crisis and performed comparably to Global GDP performance, EU sovereign debt had reached all-time highs just before the COVID pandemic, see Figure 1.⁷ Today, EU financial institutions have a better state of financial health than before the 2008 financial crash. Yet, economic risk factors indicate Europe's conditions may be more susceptible to a potential systematic financial crisis due to states' interdependency to hedge financial risk.

Additionally, while the European Central Bank takes a more central role managing state access to liquidity in the COVID era, the European Zones will have to work through the consequences of high overall centralized debt control. In contrast, individual states weigh economic viability decisions versus central management and control of risk, which may counter their vital interests. Without the prospect for relief of the pandemic and high sovereign debt effects, state policymakers will likely focus on options for state survival and fiscal viability vice policies of growth and opportunity.

⁶ See Appendix A3, GNI United States, Russian Federation, China, EU 1990–2019, which indicates a flat growth rate since the 2008 fiscal recession.

⁷ “Global Financial Stability Report: Bridge to Recovery,” Annual (Washington, DC: International Monetary Fund, October 2020), viii, <https://www.imf.org/en/Publications/GFSR/Issues/2020/10/13/global-financial-stability-report-october-2020>. Sovereign debt has reached historical highs in major G20 states with relevant important financial sectors.

Although states are EU members, they still prioritize the retention of sovereignty and their national interests. Therefore, the states will likely seek emergent access to alternative economic sources that may make them vulnerable to terms that would counter long-term regional interests and stability.

Economic Policy

As indicated in the previous section, fiscal and monetary policy factors affecting nations' debt and effects on national productivity make states less agile and flexible economically during the pandemic response and thus is a critical strategic factor. To understand the nature of the current COVID debt crisis, it is crucial to know how the economic environment and policies continue preexisting economic conditions related to the financial risk revealed in the 2008 financial recession. Since the 2008 recession,

(Bars = range over the last 30 years; dots = latest value)

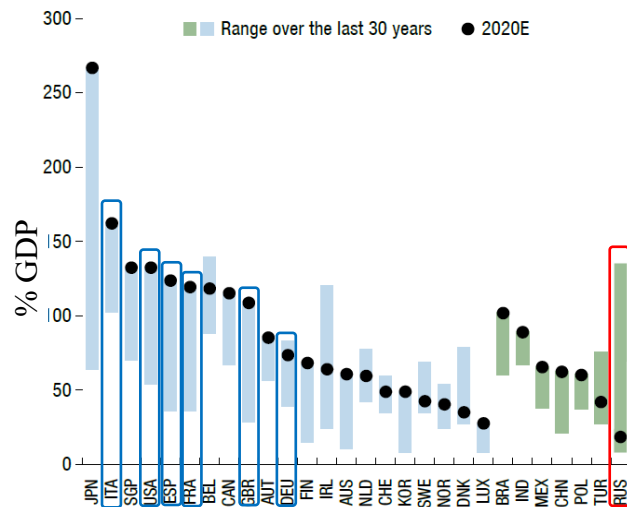


Figure 1: Sovereign Debt-to-GDP Ratios Trend Over Last 30 Years. Source: Global Financial Stability Report: Bridge to Recovery.

E = estimated

Note 1: Data labels in Panel 1 use International Organization for Standardization (ISO) country codes.

Note 2: Relative debt-to-GDP ratios of U.S. and European members of G7 at highest levels (circled in blue). In contrast, the Russian Federation is near its lowest level of ratio (circled in red).

Note 3: Debt-to-GDP ratios are indicators to predict slowing economies and are indicative of recessions.

policymakers have typically deleveraged and recapitalized through either intrastate or interstate funding. Depending on the state's credit risk ratings and the international capital markets' health, the International Monetary Funds or financial institutions recognized by the European Commission have afforded nations a way to access funds. However, because pre-existing debt levels reached historical highs, the European Central Bank has become the only lender to assume the necessary debt level by issuing government bonds at record levels.⁸ Just before the COVID-19 pandemic, the European Central Bank adopted a policy of issuing low-interest bonds to states to reduce borrowing costs. The measure avoided tightening markets and limiting the risk of a sudden cascading financial shock throughout the system by reducing costs.⁹ However, the COVID-19 pandemic is an uncontrollable shock element that has introduced an unforeseen catalyst to the financial system with a scale and speed that jeopardize a systematic failure necessitating deliberate, decisive, and bold European Central Bank policy action similar to that taken in the 2008 recession.¹⁰

However, compared to U.S. policymakers' and financial sectors' response, the EU's response in scale and timing reveals potential EU vulnerability. In March 2020, the U.S. took quick, progressive, and targeted actions culminating in a nearly \$2 trillion relief package by mid-March 2020. In contrast, the EU was slow, reactionary, and misguided through the initial response period, did not reach a consensus until July 2020, and relies

⁸ Joshua Oliver, "Europe Breaks Records with Government Bond Issuance Surge," *Financial Times*, April 5, 2021, sec. World/Europe/Sovereign Bonds, <https://www.ft.com/content/199b6227-978e-4e01-ba67-8f4dd2a072c1>.

⁹ Tommy Stubbington and Martin Arnold, "ECB to Gobble Up More Debt Next Year Than Governments Can Sell," *Financial Times*, October 29, 2020, sec. Markets, Sovereign Bonds, <https://www.ft.com/content/29da96b3-8202-466c-b1d5-bc63208a4852>.

¹⁰ Victor Constancio, "Contagion and the European Debt Crisis," *Financial Stability Review, Banque de France*, Public Debt, Monetary Policy, and Financial Stability, 16, no. April 2012 (04/12): 118.

on each nation's capital to ratify the €750 billion economic recovery package.¹¹ Due to the delay, some wealthy and prosperous European states took individual action to advocate for and generate economic stimulus packages, challenged and opposed ECB actions to provide liquidity and support for the most negatively affected member states, and restricted adjustments to allow external funding.¹²

A snapshot of the COVID-19 fiscal environment and general health illustrates the state vulnerabilities while mitigating a debt risk buffer of the financial sector, although still highly dependent and complicated.¹³ As the COVID pandemic continues, the EU states' sovereign debt-to-GDP levels will likely continue to reach new heights. Although the 2008 financial crisis informed future financial risk decisions between banks and states, the European Central Bank's current response to address the excessive states' debt may be too singularly focused. As a result, countries will prioritize servicing debt from alternative sources with limited stimulus options or insufficient options from within the EU. Moreover, states prioritize servicing sovereign debt because it slows productivity and growth while simultaneously increasing the tax burden on the population, making the countries and population economically vulnerable.

When considering strategic vulnerability, a critical factor is sovereign debt, which potentially makes the EU vulnerable to systematic financial failure due to a shock event exacerbated by the financially strained COVID debt environment. A shock event can potentially cascade throughout interconnected economic sectors and precipitate security-

¹¹ James Jackson et al., "Global Economic Effects of COVID-19," Information (Congressional Research Service, December 23, 2020), 40–54, <https://fas.org/sgp/crs/row/R46270.pdf>.

¹² "Searching for Meaning: The Covid-19 Pandemic Puts Pressure on the EU."

¹³ See Appendix A5: International Monetary Fund Global Vulnerabilities. Vulnerabilities have increased across regions in private and sovereign sectors due to the COVID-19 corporate borrowing surge whereas non-bank financial sectors remained elevated.

related social panic for the state or region. Second, without a sufficiently responsive ECB and monetary union to support the most vulnerable states, a debt-heavy nation might seek relief through a long-term transaction outside the European Union.

Trade

Global value chains, already under strain from trade tensions, are strained further and reveal market susceptibilities to energy commodities revealing trade as an essential strategic factor for the EU.¹⁴ Since 2000, the global value chains have adapted, separated, and regionalized around three key constituencies.¹⁵ Additionally, six of the G7 are among the hardest hit by the COVID pandemic, and these countries have considerable influence on suppliers, distributors, and demand.¹⁶ Disruption in the broader EU has been made worse with lower demand influenced by business and consumer wait-and-see mentality related to unemployment and lockdowns.¹⁷ First-order effects are likely on increased trade costs, and second-order effects further strain banking and financial sectors dealing with business and individual defaults and insolvencies.¹⁸ These factors converge as a vulnerability because they are centrally dependent on a materialistic and consumerist economic model that is constrained by the COVID-19 pandemic.

¹⁴ “World Trade Statistical Review 2019” (Geneva, Switzerland: World Trade Organization, 2019), 5–20, https://www.wto.org/english/res_e/statistics_e/wts2019_e/wts19_toc_e.htm.

¹⁵ See Appendix A13, Global Value Chain Analysis 2000–2015. Supply nodes and hubs have self-regulated change, adapting post-financial crisis to globalization and technology trends.

¹⁶ See Appendix A21, World Leading Traders of Goods and Commercial Services 2019. As a collective, the EU population is highlighted in light blue; see Appendix B4, EU Population Pyramids, 2020 and 2035, representing a substantial block of trade, representing approximately three times the absolute value compared to the U.S. and China and 15 times that of the Russian Federation.

¹⁷ Baldwin and Weder di Mauro, *Economics in the Time of COVID-19*, 13–16.

¹⁸ Maryla Maliszewska, Aaditya Mattoo, and Dominique van der Mensbrugghe, “The Potential Impact of COVID-19 on GDP and Trade A Preliminary Assessment,” Policy Research working paper, Office of the Chief Economist, East Asia and the Pacific Region and the Macroeconomics, Trade and Investment Global Practice. (Washington, DC: World Bank Group, April 2020), 4, <http://documents.worldbank.org/curated/en/295991586526445673/The-Potential-Impact-of-COVID-19-on-GDP-and-Trade-A-Preliminary-Assessment>.

A second significant factor for the EU is securing reliable energy sources. Since the financial crisis in 2008, commodity trade and prices have been dynamic, with the fossil fuel industry experiencing demand and price drops to historic lows following the modest commodity recession in 2016.¹⁹ Although lower commodity prices will provide modest relief for some EU economies, the short-term lack of financial resources generated from the drop in energy exports has directly impacted producing countries.²⁰ Across the spectrum of possible conditions to consider as strategists, the highly interconnected nature of the global value chains and dependency on specific nodes represent a critical vulnerability. Countries are still heavily dependent on reliable energy sources both as revenue and a strategic reserve, highlighting a vulnerability for nations without sufficient access or alternatives.

Finding the right balance of trade factors to leverage will be essential to the COVID recovery across the globe. European policymakers' unique challenges converge with trade aspirations with weak liquidity positions and policy changes that lag international competitors, ultimately putting the EU at a competitive disadvantage. Additionally, reliance on trade sectors is susceptible to dynamic shifts due to global value chains outside their control span. The cumulative economic debt, policy, and trade factors indicate strategic key factors vulnerabilities that could make the EU susceptible to disruption.

¹⁹ See Appendix A14, Major Commodity Prices, and Appendix A15, World Energy Demand for Fuel, which indicate past and future fuel price and demand volatility.

²⁰ Baldwin and Weder di Mauro, *Economics in the Time of COVID-19*, 21.

Political Strategic Factors

Politics are a vital consideration for the EU even as 2019 witnessed the 14th consecutive year of decline of freedom and deterioration of political rights and civil liberties.²¹ The EU represents sovereign states as a single supranational government, supports democratic principles, steers regional cooperation toward a free-market vision, and promotes cohesive policy within a single market representative body. It accomplishes these objectives and manages complex national interests through the EU Global Strategy for Foreign and Security Policy.²² A general summary of the EU suggests strategic tensions exacerbated in the COVID-19 pandemic emerge with ubiquitous hardships. These hardships include factors of high unemployment, a high volume of immigrant workers with no EU holistic policy, tensions growing between supranational versus individual state sovereignty based on divergent values and priorities, and non-alignment political power struggles between democratic international organizations and national populist movements.²³

External conditions in the social-economic, diplomatic, and political domains have created tensions between the EU and vital state interests, causing the states to reassess supranational interests and defend sovereign initiatives. On the macro EU level, unemployment and immigration, both historically difficult policies to implement with

²¹ Jens Maesse, "The Discursive Political Economy of Europe: Hybrid Formation of Nationalist Populism through Economics," *DiscourseNet Collaborative Working Paper Series*, no. 3 (2020): 2–8, 14–24, https://pdfs.semanticscholar.org/13ed/f05d74ea1bb68fbc10c9c770285957976093.pdf?_ga=2.100308956.313928608.1609275144-151945631.1608401150.

²² Federica Mogherini, "Shared Vision, Common Action: A Stronger Europe—A Global Strategy for the European Union's Foreign and Security Policy" (European Union, European External Action Service, June 2016), https://eeas.europa.eu/sites/eeas/files/eugs_review_web_0.pdf.

²³ Aleksandra Borowicz, "The European Migration Crisis: Economic and Political Factors and Challenges for the Future," *European Integration Studies* 11, January (2017): 90–93, <https://doi.org/doi:10.5755/j01.eis.0.11.18958>.

consensus, have contributed to the wealth and social disparity across Europe concentrated in traditional power centers and centers of excellence dependent on the relationship with regional power centers of trade.²⁴ The EU is also under pressure from states challenging its authority to impose laws and its long-term viability. At the same time, populist movements and leaders capitalize on regional differences and sentiments ranging from low-level wealth participation, demographic decline, and taking advantage of social-economic vulnerabilities.²⁵ The questions of EU's vulnerabilities and capacity to manage the second- and third-order effects of a complicated pandemic recovery become more complex while navigating a political landscape in which states prioritize state survival vice organizational priorities.²⁶

Employment and Migration

COVID has affected 90–110 million people's employment globally, which is an essential key factor consideration as it affects public will and sense of security.²⁷ The EU is witnessing historically low regional unemployment rates in Mediterranean countries, significant regional wage divergences, and low job supply incapable of absorbing unemployed candidates during COVID, resulting in substantial reductions for states to generate tax revenue.²⁸ EU lockdowns have affected approximately 60 million jobs with either reduced hours, furloughs, or permanent lay-offs, delaying an already weak

²⁴ Maesse, "The Discursive Political Economy of Europe: Hybrid Formation of Nationalist Populism through Economics," 6–10.

²⁵ Maesse, 3.

²⁶ Bart Bonikowski, "Three Lessons of Contemporary Populism in Europe and the United States," *Brown Journal of World Affairs* 23, no. 1 (2016): 21–23.

²⁷ "International Migration Outlook 2020" (Paris, France: Organisation for Economic Co-operation and Development (OECD), 2020), xiii, <https://doi.org/10.1787/ec98f531-en>.

²⁸ See Appendix A6, U.N. Unemployment Rates, Appendix A7, EU Wage Divergence 2000–2018, and Appendix A8, COVID-19 Lockdown and Volatility Impacts on Job Postings, which cumulatively indicate the employment and wage conditions prior to the COVID pandemic and the indicators of a slow recovery.

economic recovery with disproportionate effects that further exacerbate economic disparity.²⁹

Additionally, the EU performance in the high and medium technology and knowledge-based sectors, tourism, hospitality, and recreation, has been devastated.³⁰ Sectors at the highest risk may affect regions with the highest sovereign debt while also contributing significantly to the overall European economy.³¹ High unemployment, high regional wage divergence, and the bleak outlook for the youth who will bear most of the tax revenue burden over the next two decades highlight a significant vulnerability for the EU to address in the COVID recovery.³²

Along with considering European employability factors during the COVID recovery, conditions across the EU align for an imminently busy period of migration that could leave regions vulnerable across the EU. Since the 1986 Schengen Agreement, which eliminated European border controls, people have freely moved to avoid economic hardship, despair, and persecution.³³ Local and regional level migration policies manifest as barriers between citizens and migrants and highlight the need for policymakers to address the growing vulnerability.³⁴

²⁹ D. Chinn et al., “Safeguarding Europe’s Livelihoods: Mitigating the Employment Impact of COVID-19” (McKinsey & Company, April 2020), 4, https://www.rhhdigital.com/docs/PRXX_Safeguarding-Europes-livelihoods-Mitigating-the-employment-impact-of-COVID-19-F.pdf.

³⁰ See Appendices A9–11, Output of High Technology, Medium Technology, Commercial Knowledge Industries, and Appendix A12, Gross Domestic Expenditure of R&D by Region. Cumulative trends indicated the EU was a sector leader prior to the COVID-19 pandemic.

³¹ Chinn et al., “Safeguarding Europe’s Livelihoods: Mitigating the Employment Impact of COVID-19,” 9; Regions dependent on sectors of tourism, arts and entertainment, wholesale and retail, construction; youth employment opportunities for ages 15–24 account for twice the job loss rate; and small and medium companies employing less than 250 employees account for €4.7 trillion in the overall European economy.

³² Appendix B4, EU Population Pyramids, 2020–2035. An increasingly older and aging population is supported by a smaller and shrinking EU youth demographic.

³³ J. M. Noteboom and C. F. Doebbler, “A Draft Treaty Concerning the Schengen Accord,” *Leiden Journal of International Law*, HeinOnline, 2, no. 2 (November 1989): 229–31.

³⁴ Georg Diez, “The Migration Crisis and the Future of Europe,” *American Prospect* 30, no. 2 (2019): 51.

One aspect of the 2011 Arab Spring movement not generally addressed was a potential for a watershed event for the EU to address migration policies that did not result in significant or lasting EU policy change.³⁵ Subsequently, when 2014 to 2016 brought one of the most considerable immigration periods, several EU states categorized immigration as a national natural disaster for political support.³⁶ Magnifying the COVID hardship is the high volume of unemployed, internally displaced persons, migrants, and refugees. Post-COVID conditions align to repeat the past migration lessons without a broad, comprehensive policy to manage the vulnerability.

Most significantly, the Organization for Economic Cooperation and Development, the International Monetary Fund, and the World Bank characterize the effects of the COVID-19 recession as the worst since the Great Depression of the 1930s or World War II.³⁷ Because unemployment and migration are inextricably linked, a spectrum of factors in the EU for debt-laden nations range from fiscal strain supporting the unemployed to the disproportionate application of EU or bilateral policies mitigating migration issues. Unemployment creates hardships, both as a lack of revenue and as a liability. Simultaneously, ill-conceived regionalized border or migration policies foment inequality in communities, further affecting vulnerable populations' confidence and confidence in their leaders, which are essential key factors to consider.

³⁵ Philippe Fargues and Christine Fandrich, "Migration after the Arab Spring," Research, MPC RR 2012/09 (San Domenico di Fiesole, FI: European University Institute Robert Schuman Centre for Advanced Studies Migration Policy Centre, September 2012), <https://cadmus.eui.eu/handle/1814/23504>.

³⁶ Phillip Connor and Jeffery Passel, "Europe's Unauthorized Immigration Population Peaks in 2016, Then Levels Off" (Washington, DC: Pew Research Center, November 13, 2019), 5, <https://www.pewresearch.org/global/2019/11/13/europes-unauthorized-immigrant-population-peaks-in-2016-then-levels-off/>.

³⁷ "Global Financial Stability Report: Bridge to Recovery," 22.

Geopolitical

A critical strategic factor to consider for the EU is the erosion of shared strategic interests, values, and principles in tension with current and future states' strategic autonomy ambitions.³⁸ The EU is a complex bureaucratic political system-of-systems of governance that provides a representative voice for broad regions, partners, and citizens with a shared vision of democratic principles, common values, and shared territorial security.³⁹ However, due to differing national interests, integrating policies to build consensus is a time and resource-intensive endeavor to reach common ground.⁴⁰ As highlighted in the 30-year longitudinal study, correlations of values and regional socio-demographics influence any number of topics affecting generational and individual values and, most significantly, feelings about ambitions toward centralization and democracy in the EU; see Figure 2.⁴¹

Brexit represents the most significant example of an eroding relationship that escalated to a fissure from the EU and its values that will affect both actors' strategic economic, political, and military considerations. Questions remain about how the long-term impact of the U.K. on diplomatic, financial, or military relationships will play out for vital U.S. and European interests. But the breakup of the union by a founding

³⁸ Mogherini, "Shared Vision, Common Action: A Stronger Europe—A Global Strategy for the European Union's Foreign and Security Policy," 4.

³⁹ Mogherini, 1–7.

⁴⁰ "Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: On the EU Security Union Strategy" (European Union: European Commission, July 24, 2020), 10, <https://ec.europa.eu/transparency/regdoc/rep/1/2020/EN/COM-2020-605-F1-EN-MAIN-PART-1.PDF>.

⁴¹ Pierre Bréchon and Frédéric Gonthier, *European Values: Trends and Divides over Thirty Years*, vol. 17, European Values Studies (Boston, MA: Brill, 2014), 1–172.

signatory partner will undoubtedly have long-standing negative implications for the EU's viability.⁴²

Internally, the EU also faces populist leaders seeking political advantages and tensions between the EU supranational organization and the states fighting to retain state sovereignty. Populist political leaders focus on pragmatic realism and nationalism versus

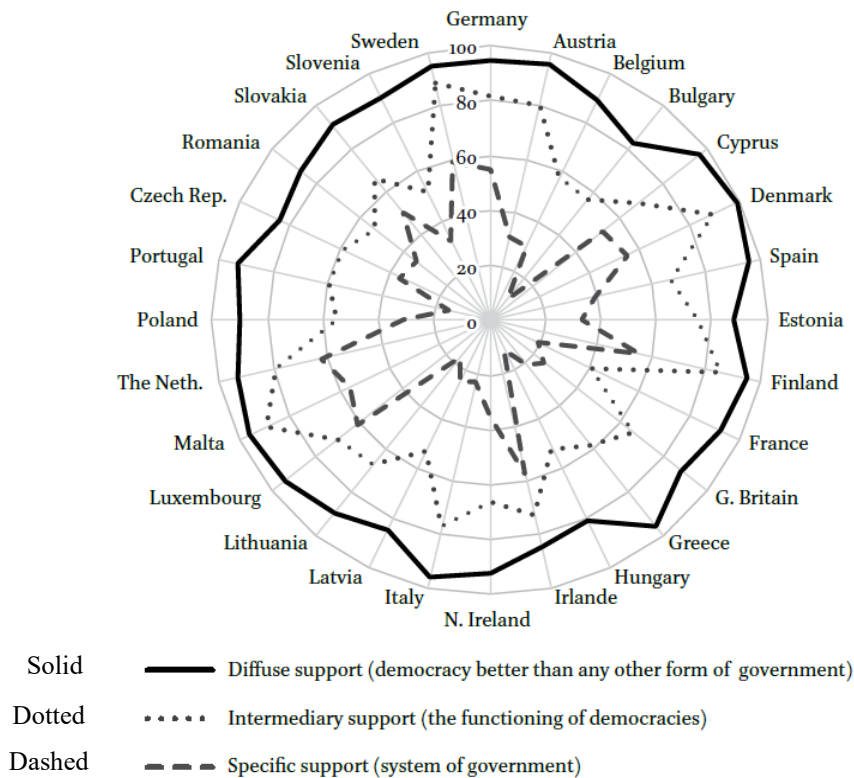


Figure 2: Diffuse and Specific Support for Democracy. Source: European Values: Trends and Divides over Thirty Years.

Note: The 30-year longitudinal study highlights the regionalization of support for systems of governments highlighted by findings of lower support for democratic liberal governments along with findings of lower election participation, EU referendum failures, and emergence of Eurosceptic parties within the EU. Secondly, the study highlights the impression that although democracy is perceived as the better government (highlighted by the solid black line), it is not perceived as the best functioning government (highlighted by dotted line).

ideal neoliberalism via populist movements focused on exacerbating problems through

⁴² Vytautas Isoda, "European Security Architecture after the United Kingdom's Withdrawal from the European Union: Future Scenarios," *Lithuanian Annual Strategic Review* 17, no. 1 (2019): 128–88, <https://doi.org/10.2478/lasr-2019-0007>.

social networks to facilitate their ideology.⁴³ The Court of Justice of the European Union's legal confrontations against state constitutional courts represent a fundamental confrontation between a supranational organization and state sovereignty that could jeopardize its legitimacy. State constitutional courts have challenged the Court of Justice of the European Union on state sovereignty factors through numerous premises and precedents. The Court of Justice of the European Union rulings against the state findings bring the fundamental principle of EU law's primacy into tension with state sovereignty, thus exposing a further vulnerability in the EU rule of law and slowly putting the EU at risk eroding its relevance.⁴⁴ The general tendency of the slow erosion of democratic principles and values indicates the failure of institutions and organizations built on those principles and is indicative of a broader vulnerability.

Populism

Another essential factor is political movements that create government structural change, convergence or divergence of values, or social and cultural bifurcation. Populist movements have magnified preexisting discursive socio-economic conditions within the European regions during the COVID-19 response on a macro level. While the EU has enabled and incentivized free trade and labor across open borders to ensure access and equitable distribution of prosperity, a disparity has evolved. This disparity is between booming regions around big cities and the Alps, areas surrounding the urban areas at a lower-medium level of wealth participation, and a shrinking and disconnected

⁴³ Frederic Guerrero-Solé et al., "Social Media, Context Collapse and the Future of Data-Driven Populism," *Profesional de La Información* 29, no. 5 (2020): 3–5, <https://doi.org/10.3145/epi.2020.sep.06>.

⁴⁴ Noel Dorr, "Why Is a German Court Undermining the European Union?," *The Irish Times*, May 28, 2020, <https://www.irishtimes.com/opinion/why-is-a-german-court-undermining-the-european-union-1.4263978>.

countryside region.⁴⁵ Populist movements capitalize on the micro-state and regional level differences and sentiments ranging from low-level wealth participation, demographic decline, and the spread of negative emotions.⁴⁶

On the macro EU level, this has translated to wealth and social distribution disparity in power centers, divisions of socio-economic demographics, centralization control of global value chains, and centers of excellence dependent on the relationship with “power centers” for trade in specific regions.⁴⁷ To further exacerbate the disparities, the European Commission’s initial response to the pandemic was to relax wage guarantees and subsidies regulations on select domestic aid eligibility for companies feared to be failing. While the commission implemented selective subsidies amounting to €1.9 trillion in aid, half of which favored northern countries, the commission denied a proposal to subsidize grants for southern states for €1.5 trillion, further highlighting the possible entrenchment of inequality.⁴⁸ Macro- and micro-level impacts on socio-economic disparity highlight the cause of friction and potential vulnerabilities that could be used by populist movements and contribute to macro- and micro-communication targeting strategies.⁴⁹

⁴⁵ Maesse, “The Discursive Political Economy of Europe: Hybrid Formation of Nationalist Populism through Economics,” 1–2.

⁴⁶ Maesse, 3.

⁴⁷ Maesse, 6–10.

⁴⁸ “Searching for Meaning: The COVID-19 Pandemic Puts Pressure on the EU,” 3–5.

⁴⁹ See Appendix B1, Social Status and Basic Orientation Established Markets, indicating group segmentation influenced by socio-cultural factors per region modeled by a strategic marketing tool corroborating the large-scale, cross-regional, longitudinal research European Studies Program.

Military Strategic Factors

A vital factor to consider within the EU is security and defense. From 2000 to 2010, the European security apparatus transitioned between various visions and goals and through several transition periods. The EU's struggle to codify a strategy appears to have culminated with the Common Security and Defense Policy and Permanent Structured Cooperation published in 2016, along with the global strategy's 21st-century vision for a credible and responsive defense force.⁵⁰ While there was no existential threat when the strategy was published, it seems to have been suitable for Europe to reprioritize security and defense autonomy while supporting the cooperative security relationship with NATO.⁵¹ A critical consideration for the EU will be how the Common Security and Defense Policy Permanent Structured Cooperation initiative evolves to shape and potentially revitalize the region.⁵²

The Common Security and Defense Policy's vulnerability remains a lack of strategic threat, an unclear internal political structure, and a bureaucratic process framework for force standards and benchmarks that do not make standards compulsory. However, the EU global strategy is a positive initiative to pool and share "smart defense" with NATO, focus on voluntary contributions from member states, support European expeditionary operations, and develop autonomous command and control.⁵³ Current security trends indicate a prudent move would consider coalitions of willing contributors

⁵⁰ Mogherini, "Shared Vision, Common Action: A Stronger Europe," *A Global Strategy for the European Union's Foreign and Security Policy*, 9–11.

⁵¹ Mogherini, "Shared Vision, Common Action: A Stronger Europe," *A Global Strategy for the European Union's Foreign and Security Policy*, 19–20.

⁵² Sven Biscop, "European Defence: Give PESCO a Chance," *Survival* 60, no. 3 (2018): 161–80, <https://doi.org/10.1080/00396338.2018.1470771>.

⁵³ Sven Biscop, "The Future of the Transatlantic Alliance: Not Without the European Union," *Strategic Studies Quarterly* 14, no. 3 (Fall 2020): 85–92.

as most states are financially distressed and are reprioritizing budgets to address pressing COVID response and recovery initiatives.⁵⁴ Last and perhaps most significant, there has been a broad uncertainty of NATO's purpose compared to EU initiatives to seek military autonomy since 2015.

Because of the uncertainty in NATO's direction, select EU member states pursue alternative security and defense initiatives to leverage European autonomy for collective defense strategies. Since 2015, a French-led European Intervention Initiative offered an alternative approach to manage the cumbersome and complex bureaucratic politics of the EU. This approach afforded common ground to enhance cooperative defense capability for the EU Common Security and Defense Policy, NATO, and other capable and willing European stakeholders regardless of EU status, like the U.K.⁵⁵ This signifies the most significant overall vulnerability as the EU alliance accumulates more challenges than solutions as it seeks a new credible collective security initiative in a budget-restrained COVID response era.

The transatlantic defense partnership has challenged EU NATO member states to meet security burden-sharing aspirations. At the same time, the EU develops an autonomous vision for security and defense within the Common Security and Defense Policy, Permanent Structured Cooperation, and the European Intervention Initiative concepts.⁵⁶ In light of the complexity of the EU security force maturation process, NATO defense remains vital for the region.

⁵⁴ Isoda, "European Security Architecture after the United Kingdom's Withdrawal from the European Union: Future Scenarios," 188–92.

⁵⁵ Simon Sweeney and Neil Winn, "EU Security and Defence Cooperation in Times of Dissent: Analysing PESCO, the European Defence Fund and the European Intervention Initiative (EI2) in the Shadow of Brexit," *Defence Studies* 20, no. 3 (2020): 236, <https://doi.org/10.1080/14702436.2020.1778472>.

⁵⁶ "Annual Report 2019," Annual (Vienna, Austria: Organization for Security and Co-operation in Europe, 2020), 38, <https://www.osce.org/annual-report/2019>.

Summary

EU member states will become more vulnerable as they face liquidity challenges worsened by a combination of high sovereign debt, residual effects of policy decisions following the 2008 financial recession, and dynamic global value chains.⁵⁷ Several factors contribute to the slow erosion of democratic liberal society due to social-economic factors that widen gaps between prosperous and struggling European countries, exacerbated by long-term unemployment and internal migration. These social-economic factors deepen tensions between states' interests and sovereignty with supranational interests. Concurrently, the EU has begun to devise a global security strategy to establish European autonomy and sovereignty, potentially turning away from traditional security relationships and alliances to ensure the region's survival.

Table 1. European Key Factors

European Vulnerabilities
Economy: Sovereign debt ratios, economic policies, commodity global value chain
Political: Unemployment, immigration, nationalism, state challenges to sovereignty
Military: Indecision on EU global Security Strategy and European autonomy, weak support for NATO sharing standards

⁵⁷ "World Economic Outlook: A Long and Difficult Ascent," xiii–xiv.

Chapter 3: Russian Federation—Thoughts, Motives, and Factors

*Ideas are far more powerful than guns. We don't let our people have guns. Why should we let them have ideas?*¹

—Joseph Stalin

Since the Cold War, the Russian Federation has managed a low-risk, high utility foreign policy. Its foreign policy primarily uses practical political and economic actions, coupled with focused intimidating military activity combined with a commodity-based economy as a coercive political lever to manage state periphery interests. Until the Ukraine crisis, the Russian Federation's low-risk strategic actions were those of a resurging superpower, centered around an authoritarian leader who consolidated power around his leadership but was in line with a peaceful yet competitive ideological struggle without resorting to arms.

However, since the Ukraine crisis and particularly since the beginning of the COVID-19 pandemic, the Russian Federation has increased its information operations with impunity, probing strategic actors' vulnerabilities.² In Estonia, Ukraine, Georgia, the U.S., and the U.K., Russia has tested many means of gray zone operations; it has also used Syria to test and perfect equipment, tactics, techniques, and procedures.³ This review intends to highlight a former superpower's capabilities pursuing its key strategic opportunities to disrupt the U.S. influence on the international order and put at risk the U.S.'s vital national interests.

¹ Larry Elder, *Showdown: Confronting Bias, Lies and the Special Interests That Divide America* (New York, NY: St. Martin's Griffin, 2003), 90.

² Dustin Volz, "U.S. Agencies Hacked in Foreign Cyber Espionage Campaign Linked to Russia," *The Wall Street Journal*, December 13, 2020, sec. Politics/National Security, <https://www.wsj.com/articles/agencies-hacked-in-foreign-cyber-espionage-campaign-11607897866>.

³ Stacie L. Pettyjohn and Becca Wasser, "Competing in the Gray Zone: Russian Tactics and Western Responses" (Santa Monica, CA: RAND Corporation, 2019), 31–42, <http://www.rand.org/t/RR2791>.

Economic Strategic Factors

The Russian Federation is an alternative regional leader to Western fiscal, monetary, and trade options that offer economic unions or seek positions as a leader in recognized international organizations to counter Western influence.⁴ The Russian Federation experienced modest growth compared with either Gross Domestic Product Purchasing Power or Gross National Income metrics due primarily to conservative economic policies and stable exports of commodities just below nominal global growth, with a modest negative effect on both productivity and exports associated with COVID-19.⁵

Oil and energy remain the Russian Federation's preferred economic tool to shape political and economic arrangements. The Russian Federation also leverages its state-owned arms production capacity to influence political objectives. It is the world's second-largest exporter in terms of volume in 2020, with India, China, and Algeria its biggest customers and the most extensive arms provider to the African continent. Russia uses this influence to create opportunities to achieve its economic and political aims.⁶ In the post-COVID-19 era, the Russian Federation's overall economic health is assured by the global dependency on specific energy-related commodities and arms sales. These key opportunities are factors to control its low-cost, low-risk opportunistic activities and

⁴ Maliszewska, Mattoo, and van der Mensbrugghe, "The Potential Impact of COVID-19 on GDP and Trade: A Preliminary Assessment," 9–10.

⁵ See Appendix A2, GDP-PPP U.S., RF, China, and EU, indicating a positive year over growth until 2014–2016. Appendices A3, GNI U.S., RF, China, and EU, and A4, UN Rates of Growth of Real GDP, corroborate these findings with the largest contributing factor associated with the fuel commodity process, per Appendix A14, Major Commodity Prices, 2009–2019, and lack of diversification; see Appendix A20, Economies in Transition.

⁶ *SIPRI Yearbook 2020: Armaments, Disarmament and International Security* (Oxford, England: Oxford University Press, 2020), 280–83.

support its strategic aims to secure the position of the president and the party for the foreseeable future.

Economic Policies

Since the collapse of the Soviet Union, Russian fiscal policies have focused on and remain committed to maintaining autonomy and sovereignty by reducing economic risk. Russia accomplishes this aim in two ways. First, Russia primarily depends on oil and gas profits to repay loans and manage debt-to-equity ratios, which is a key factor to assure flexibility for opportunities; see Figure 1.⁷ Additionally, the Russian Federation Central Bank has bought large quantities of gold and foreign exchange as risk mitigation measures resulting in both current accounts and reserves exceeding debt.⁸ However, the economic risk remains inherent in the Russian Federation markets compared to Western markets due to a fundamental conflict of needing a rules-based economy while simultaneously opposing the U.S., which has traditionally determined the market's policies. This influences Russian development and investment, as both government and companies have amassed cash liquidity due to low business confidence, consumer debt, and lending practices.⁹

Additionally, while regional or domestic conflicts continue in the Ukraine, Caucasus, and other periphery interests, international institutions like the Organization for Economic Development and the International Monetary Fund have imposed economic policy measures. At the same time, conventional state investment rating systems fix risk

⁷ "Global Financial Stability Report: Bridge to Recovery," 19–20.

⁸ See Appendix A18, Currency Valuations EURO to Russian Ruble, 1999–2020, indicating a recent and sudden devaluation of the Russian ruble.

⁹ Sean P. Roberts and Arkady Moshes, "The Eurasian Economic Union: A Case of Reproductive Integration?," *Post-Soviet Affairs* 32, no. 6 (2016): 557–59, <https://doi.org/10.1080/1060586X.2015.1115198>.

ratings to Russian-related economic activities just above speculative non-investment grade levels.¹⁰ These risk valuations result in fewer growth prospects and, until recently, depreciating national currency valuation, limiting the Russian Federation's access to external capital markets and corroborating unconventional country risk ratings.¹¹

Furthermore, while unemployment remains at all-time lows and short-term population growth expands, broad demographic trends indicate an impending reversal exacerbated by the COVID-19 pandemic. Informal employment markets are typically the first indication of change. Historically, informal employment migration trends favor the Baltic region similarly to the period following the fall of the Soviet Union.¹² Combined with predictions of long-term population contractions, the convergence of demographic and migration trends indicates impending policy obstacles.¹³

Last, as the third-largest contributor to the Asian Infrastructure Investment Bank, a regional alternative to the World Bank, Russia seeks to moderate effects from the shock of a crisis and converge geo-economic interests to maintain hegemonic ambitions for select opportunities.¹⁴ Russia remains a primary participant in several alternative regional emerging market economic organizations, like the Shanghai Cooperation Organization and BRICS, focused on regional emerging markets. In the post-COVID-19 era, most emerging markets face risk premiums associated with state debt load and dynamic and

¹⁰ "Sovereign Ratings Risk 2021," Information, www.countryeconomy.com, March 30, 2021, <https://countryeconomy.com/ratings>.

¹¹ See Appendix A16, Geopolitical Risk Index 2010–2020. Notable events equate to a risk premium set by automated geopolitical risk queries.

¹² Dr Jeremy W Lamoreaux, "Russian Activities in Europe," *Russian Strategic Intentions. A Strategic Multilayer Assessment (SMA) White Paper*, (Washington, DC: Joint Chiefs of Staff, J39, 2019), 49–52.

¹³ See Appendix A6, UN Unemployment Rates, which indicates the lowest unemployment levels in the last decade before the COVID pandemic. Simultaneously, Appendix B5, Russian Federation Population Pyramid, 2020 to 2035, indicates a large aging population supported by a shrinking demographic of work-eligible early career individuals and youth.

¹⁴ Roberts and Moshes, "The Eurasian Economic Union: A Case of Reproductive Integration?," 544–56.

unpredictable investment outflows. Unlike traditional global organizations, the Russian Federation looks to seek opportunities to offer an investment alternative to the World Bank and International Monetary Fund if states are willing to accept the terms determined by the Russian Federation.¹⁵

Commodities

Although oil agreements with the Organization of the Petroleum Exporting Countries capped production limitations, Russian state-owned companies continue to explore opportunities across the Caspian Sea, Caucasus regions, and Africa to maintain a substantial oil and energy export supply to support demand.¹⁶ While oil and energy policy remains the preferred means to shape political and economic arrangements, the 2014–16 price downturn exposed an economic vulnerability.¹⁷

In the long term, a balanced world consumption policy implemented under the Paris Agreement 2030 will start to shape factors affecting oil and gas usage, while long-term policy and commitments will drive consumption toward international goals.¹⁸ The combination of price volatility and global consumption goals will influence the Russian Federation's commodity trade approach as demonstrated by its comparative fall to other countries as an energy exporter with a lack of diversification. However, it will neither

¹⁵ “Global Financial Stability Report: Bridge to Recovery,” 19–22.

¹⁶ Ben Hodges et al., “One Flank, One Threat, One Presence: A Strategy for NATO’s Eastern Flank,” Policy Research working paper (Washington, DC: Center for European Policy Analysis, 2020), 13–17.

¹⁷ See Appendices A14, Major Commodity Prices, A15, UN World Energy Demand by Fuel, A19, UN Estimated Regional Share of Fuel by Type, and A20, Economies in Transition, which all indicate an economy lacking diversification thus highly susceptible to current and future demand for fuel commodities.

¹⁸ “World Economic Situation and Prospects 2020” (New York, NY: United Nations, Department of Economic and Social Affairs, January 16, 2020), 10, www.un.org/development/desa/publications.

temper its exploration for new opportunities in emerging markets in Eurasia and Africa nor restrain them from using commodities as geopolitical leverage.

State-Owned Industry

The Russian Federation's defense industry best illustrates the end of the Cold War effects and illuminates considerations that shape the Russian Federation's current strategic opportunities. The most significant of these considerations are the economic-industrial base capacity and productivity, military readiness, and limited strategic political-economic cohesion due to periphery conflicts.

Compared to the Soviet era, the concepts and approach to the regional industrial base and employment have centralized capacity and capability while consolidating central political control around the president's position. However, between 1980 and 2018, percent GDP contributions to defense spending cycled from a high of 17.7 percent down to a decade of approximately 3.0 percent, followed by an average of 4.0 percent over the last two decades. This factor significantly overshadows the centralization efforts and has lasting effects on acquisitions, readiness, and research and development.¹⁹

The current strategic central control of the defense industry and military, chaired by President Putin, ensures military readiness priorities are coordinated and supported with budget prioritization, regardless of economic conditions, to ensure capabilities match strategic opportunities. Additionally, Russia has moved to be the world's second-largest exporter of arms by volume from 2015–2019, delivering to 47 states averaging

¹⁹ Christopher M. Davis, "The Russian Defence Industry, 1980–2025: Systemic Change, Policies, Performance and Prospects," *The Economics of the Global Defence Industry* (New York, NY: Routledge Taylor & Francis Group, 2020), 69–83, <http://search.ebscohost.com.nduezproxy.idm.oclc.org/login.aspx?direct=true&AuthType=ip,url,uid&db=nlebk&AN=2200158&site=eds-live&scope=site>.

approximately \$15.4 to \$16.0 billion. To compensate for the limited capacity of other global competitors, Russia has leveraged its long-standing advocacy for military science units with its national information warfare doctrine in the information warfare domain.

The combination of limited capacity and limited readiness is most evident as Russia has consolidated its state-owned traditional capabilities. At the same time, Russia struggled to field operational conventional military force readiness on par with other global state powers. To compensate, it has deliberately limited extensive military operations and chosen to excel in implementing hybrid methods. Russia has the systems, people, and infrastructure to execute subversive operations to influence the EU and NATO activities it deems a threat to its security, sphere of influence, and status as a global actor.²⁰

Political Strategic Factors

A significant consideration is the spectrum of political opportunities the Russian Federation deems a priority under the leadership of President Putin. Since the end of the Cold War, specific themes have become apparent as Putin has refined his objectives and aligned strategic means. Putin's fundamental interest has been to retain control of the authoritarian leadership followed by sustaining a perception of the Russian Federation as a great power that retains autonomy, sovereignty, and freedom of action to achieve national interests.

In 2005, Vladimir Putin focused primarily on the geopolitical issues confronting him instead of the long-term implications of social issues of an aging population's well-

²⁰ Andrew Radin, Alyssa Demus, and Krystyna Marcinek, "Understanding Russian Subversion: Patterns, Threats, and Responses" (RAND Corporation, Feb 20), 3–6, https://www.rand.org/content/dam/rand/pubs/perspectives/PE300/PE331/RAND_PE331.pdf.

being and prosperity.²¹ He described the Soviet Union's fall as "the greatest geopolitical catastrophe of the 20th century," an inflection point he considered vital for Russian citizens within and beyond the Russian territory.²² After coming to the presidency, President Putin's rhetoric to return the Russian Federation to a great power status combined domestic, foreign, and diplomatic policy and rhetoric necessary to reform, realign, and re-integrate the Russian identity to what it means to be Russia and either using or making opportunities to restore that identity internationally.²³

Authoritarian Leadership

The vital strategic factor that enables the Russian Federation to leverage strategic opportunities is to consolidate authoritarian power at the president's position in the Strategic Leader Vladimir Putin. Historically, the Soviet Union has had similar convergence periods of strong leaders like Josef Stalin and Leonid Brezhnev, who consolidated power via various means. President Putin has adeptly used his position, multiple networks, and information to leverage opportunities to persevere and balance vital Russian interests with his self-interests.

Under the current construct, President Putin has consolidated considerable power within the position of the president. Already the longest-sitting president since Josef Stalin, President Putin is assured to assume that title as the Russian Parliament unanimously approved extending his term in office through 2036.²⁴ In addition to his

²¹ See Appendix B4, Russian Federation Population Pyramids, 2020 and 2035.

²² "Putin: Soviet Collapse a 'Genuine Tragedy,'" NBC News, April 25, 2005, <https://www.nbcnews.com/id/wbna7632057>.

²³ W. Allensworth, "Derzhavnost: Aleksandr Lebed's Vission for Russia," *Problems of Post-Communism* 45, no. 2 (March/April 1998): 51–56.

²⁴ Mathew Schwartz and Scott Neuman, "Russian Parliament Allows Putin 2 More Terms as President," News, NPR, March 10, 2020, <https://www.npr.org/2020/03/10/814090121/putin-could-stay-president-until-2036-under-new-proposal>.

term length, President Putin has used considerable discretion to appoint loyalists to positions of power in politics and industry through patronage or coercion. These include the prime minister and chairman of the central bank while President Putin also retains central control as supreme military commander.²⁵

The primary threat to Russia and the Putin regime is the U.S.-led democratic world order. Putin leverages complex networks through complex means of power and manipulation of his inner circles: the oligarchs, internal political networks, the Russian Orthodox Church, and various external nefarious and criminal organizations.²⁶ Last, Putin utilizes information in a sophisticated and deliberate manner, combining deliberate messaging, strategic penetration, and influence across all domains to shape behaviors and perceptions for the intended effects.²⁷ The combination of singular fixed authoritarian leader, a consolidated power, vast and complex networks that span legal and illegal activities, and an understanding of information operations in a postmodern context for effects-based activities affords tremendous flexibility and agility when strategic opportunities present themselves.

Social Enclaves, Domestic Autonomy, and Sovereignty

The Russian Federation has sought to exert diplomatic and military power for regional hegemony over two special and privileged regions of interest, the Chechen and Caucasus regions.²⁸ The Chechen region offers the Russian Federation an opportunity to

²⁵ Peter Rutland, "The Political Elite in Post-Soviet Russia," in *The Palgrave Handbook of Political Elites* (London, England: Palgrave Macmillan; Springer Nature, 2018), 273–94.

²⁶ Rutland, 284–90.

²⁷ Radin, Demus, and Marcinek, "RAND PE 331-A," 6–16.

²⁸ Charles E. Ziegler, "A Crisis of Diverging Perspectives: U.S.-Russian Relations and the Security Dilemma," *Texas National Security Review*, Great power Competition, 4, no. 1 (Winter /2021 2020): 9–10, <https://tnsr.org/2020/11/a-crisis-of-diverging-perspectives-u-s-russian-relations-and-the-security-dilemma/>.

demonstrate credible sovereign capability without international interference. Russia has used the frozen conflict since 1991 with a premiss of ethnic and social struggle, territorial integrity disputes, state versus non-state conflict to justify its autonomous actions either to its people or the international community.²⁹

The Russian leadership's interpretation of privilege also includes the Russian Federation's ability to access and influence other periphery states' sovereignty if the state's interests interfere with the Russian Federation's support of its interests, primarily if it is associated with Russian enclaves.³⁰ Russian activities have become more aggressive when it assesses low-risk and low-cost opportunities. One example of this is when the Russian Foreign Ministry (MID) issued passports to South Ossetian residents of Georgia in 2006-2007 to justify protecting its citizens from hostile foreign powers.

Geopolitical Great Power

In the post-COVID era, Russian actions elicit a range of perceptions internationally, from negative perceptions associated with sowing disorder, opportunism, weakening democratic institutions, and attempts to undermine NATO cohesion to a deliberate, pragmatic, and realist strategic actor involved in arms control, selective negotiations, and an international agenda that demonstrate great power status.³¹ Two divergent strategic agendas between the EU and the Russian Federation reveal a stagnant political confrontation with conditions and opportunities dictated by Russia to maintain the strategic initiative, albeit limited.

²⁹ A. Askerov, S. Brooks, and L. Tchantouridze (eds.), *Post-Soviet Conflicts* (New York, NY: Lexington Books, 2020), 173.

³⁰ Andrew Radin and Clint Reach, *Russian Views of the International Order* (Santa Monica, CA: RAND Corporation, 2017), 17.

³¹ Allensworth, "Derzhavnost: Aleksandr Lebed's Vission for Russia," 51–58.

The Russian Federation's use of internal factors of ethnicity, selective historical legacies, and shared cultural narratives drives its external zero-sum game with policies enacted through actions related to sovereignty in the near abroad interests in conflict with the EU and NATO.³² Examples range from the arbitration and conflict resolution roles within Moldova and Transnistria and the use of unmarked armed forces to coordinate information, political, and military activities in Ukraine's Donetsk and Luhansk People's Republics.³³ Russian propensity to exert influence in its near abroad is characteristic of a strategic actor that carefully considers the use of a whole-of-government approach to confrontations, deliberates about the level of domestic and international interest while considering the extent of hybrid and subversive tactics. Most importantly, Russia aims to retain the strategic initiative with *faits accomplis* events that either gradually erodes or avoids alliance red lines.³⁴

On the other hand, the Russian Federation presents itself as a rational actor and alternative to the West. It participates routinely in the UN Security Council, in leadership roles in the OSCE for the MINSK I treaty between Armenia and Azerbaijan, participation in the Iran nuclear deal 2015, and supporting the Douma Final Report of chemical weapons use in Syria by the Organization for Prohibition of Chemical Weapons (OPWC) in 2019.³⁵ Herein lies the paradox of dealing with the Russian Federation as a strategic actor with an ahistorical view of the geopolitical future rising to superpower status in the

³² Askerov, Brooks, and Tchantouridze (eds.), *Post-Soviet Conflicts*, 288.

³³ Ben Conneble et al., "Russia's Hostile Measures: Combating Russian Gray Zone Aggression Against NATO in the Contact, Blunt, and Surge Layers of Competition" (Santa Monica, CA: RAND Corporation, 2020), 34–36, www.rand.org/t/RR2539.

³⁴ Van Jackson, "Tactics of Strategic Competition, Gray Zones, Redlines, and Conflicts before War," *USNWC Review* 70, no. 3 (Summer 2017): 39–46.

³⁵ Askerov, Brooks, and Tchantouridze (eds.), *Post-Soviet Conflicts*, 55–75; Radin, Demus, and Marcinek, "RAND PE 331-A," 60–61; *SIPRI Yearbook 2020: Armaments, Disarmament and International Security*, 437–45.

distant future but who leverages low cost, low risk, and disruption coercive actions to demonstrate relevance.

Military Strategic Factors

Over the last two decades, Russia has generally strived to exert great power primacy and autonomy in its sphere of influence, opposing NATO expansion while simultaneously developing significant specialized military capabilities.³⁶ Since 2014, the Russian Federation has consistently published its national policies as a form of great power dialogue with the U.S. However, Russia has increasingly become more active and aggressive with risk-taking patterns to counter legitimate democratic efforts, using all available means of instruments of power. Although Russia intended to be subversive to leverage vulnerabilities matched with its regional interests, activities that resulted in tactical successes had few strategic successes until Georgia and Ukraine.³⁷

Nevertheless, since the annexation of the Crimean peninsula, an emboldened Russia has supported the Assad regime in Syria, where it has re-established a firm strategic alliance with an old client and is also leveraging the domestic public perceptions of great power with impunity.³⁸ Due to the uncertainty of recent arms dialogues and Russia's view of the U.S. as an unpredictable adversary, it has used the opportunity to open a commensurate level of capability and readiness in the event conditions change within agreements.³⁹

³⁶ Eugene Rummer, "The Primakov (Not Gerasimov) Doctrine in Action" (Carnegie Endowment for International Peace, 2019), https://carnegieendowment.org/files/Rumer_PrimakovDoctrine_final1.pdf.

³⁷ Conneble et al., "Russia's Hostile Measures: Combating Russian Gray Zone Aggression Against NATO in the Contact, Blunt, and Surge Layers of Competition," xv.

³⁸ Christopher Phillips, *The Battle for Syria: International Rivalry in the New Middle East* (New Haven, CT: Yale University Press, 2016).

³⁹ The Russian Federation President, *Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence*, June 8, 2020,

Additionally, since 2003, the Russians have slowly but methodically developed conventional capabilities and capacities based on their analysis and assessment of the U.S. Gulf War activities and their current strategic interests.⁴⁰ Following Russia's Ukraine activities, activities have tended to be more emboldened and riskier. Opportunities have included influencing French, U.K., and U.S. elections, extensive use of cyber capability against state entities, overt political assassination attempts, and developing a mobile land-based missile system that theoretically holds all European capitals at risk.⁴¹ The expansion of deliberate capabilities and capacities

Summary

The Russian Federation's main aim is to disrupt the U.S.'s international influence and risk its vital national interests, per Table 2. However, Russia appears to understand its limited capability and capacity to confront the U.S. directly. Instead, it approaches weaknesses or vulnerabilities with the aim of a very measured and deliberate approach, taking or making opportunities when and where it can.

The Russian economy has protected itself with shrewd and conservative measures to assure its freedom of action from outside influences, setting conditions with the lowest sovereign debt to GDP of the G8. It relies on centralized control of its central bank and state-owned industries to assure its leadership positions in alternative international

https://www.mid.ru/en/web/guest/foreign_policy/international_safety/disarmament/-/asset_publisher/rp0fiUBmANaH/content/id/4152094.

⁴⁰ Benjamin Lambeth, "Desert Storm and Its Meaning, the View from Moscow" (Santa Monica, CA: RAND Corporation, 1992), 63–88,

<https://www.rand.org/content/dam/rand/pubs/reports/2009/R4164.pdf>.

⁴¹ See Appendix C1, SSC-8 Missile Estimated Ranges; "An Interview with Russia's Opposition Leader: The Man Who Lived," *The Economist*, Europe, no. 437 (October 17, 2020), 9216; Rachel Ellehuss and Donatienne Ruy, "Did Russia Influence Brexit?," Center for Strategic & International Studies: Brexit Bits, Bobs, and Blogs (blog), July 21, 2020, <https://www.csis.org/blogs/brexit-bits-bobs-and-blogs/did-russia-influence-brexit>; ⁴¹ "Hackers Have Vaulted into the Heart of America's Government," *The Economist*, Bear Hunt, 437, no. 9225 (December 14, 2020), <https://www.economist.com/united-states/2020/12/14/hackers-have-vaulted-into-the-heart-of-americas-government>.

financial institutions and regional suppliers of arms. Although dependent on petroleum-based commodities, it uses the leverage of demand combined with its political agenda to assure access.

Politically, President Putin has consolidated his power to ensure his regime is sustained and increase his control span. With the consolidated power, Russia can quickly and adeptly take action when opportunities reveal themselves, such as impeding nations' progress toward national interests or expanding Russia's sphere of influence.

Militarily, Russia has limited conventional capability as compared to other nuclear-capable nations. However, it has invested in developing capabilities that complement a sophisticated whole-of-government gray zone approach to confrontation via influence to attain desired effects. Overall, President Putin's use of Russian economic and military capabilities enables him to target countries with vulnerabilities that can potentially achieve his overall goal of eroding the U.S. international leadership position with low risk of consequences influencing his regime or Russian's position internationally.

Table 2. Russian Federation Key Factors

Russian Federation Opportunities
Economy: A financial alternative to IMF and World Bank, low sovereign debt-to-GDP, petroleum-based trade, and centralized control state-owned industry
Political: Authoritarian centralized decision making, selective regional hegemony, and deliberate leadership influence within international organizations
Military: Selective capability to complement whole-of-government influence, limited but improving conventional capability and capacity

Chapter 4: Factors, Discussion, and Recommendations

No one is thinking if everyone is thinking alike.¹

—General George S. Patton

Key European and Russian Federation strategic factors were identified as related vulnerabilities and opportunities in the previous sections.² The central problem is that the post-COVID-19 strategic conditions align as a rare opportunity for a well-positioned strategic-minded Russian Federation to take advantage of European strategic vulnerabilities that may impact U.S. vital interests. Weak economies characterized by poor conditions of policy and trade, a dissolving political unity due to disparity of haves and have-nots, a deepening divide in the human psychological and physical security environment leading to a bifurcated European cooperative security environment aligned with a capable and willing Russia to erode the EU and its U.S. ally further.

An appraisal of the European and the Russian Federation's strategic environment discerned that key strategic factors suggest a new strategic approach is crucial to ensure the EU does not disband as an irrelevant group of independent states, the Euro-Atlantic Alliance does not erode isolating states from the established international order, and NATO does not shatter leaving individual states to fend for their own interests after decades of relying on the strong security alliance. An informed U.S. strategic approach with an assessment of the environment and problem will inform an adjustment to its design approach and strategy to protect one of the U.S.'s vital interests before the Russian Federation takes advantage of a weakened Europe.

¹ Peter A. Kiss, "Meeting the Gray Zone Challenge," Conflicts in the Gray Zone, A Challenge to Adapt, Budapest, Hungary: Hungarian Defense Force General Staff, Scientific Research Centre, 2017), 136, https://www.academia.edu/35668192/grayzoneconfer_pdf.

² Harry Yarger, *Strategy and the National Security Professional: Strategic Thinking and Strategy Formulation in the 21st Century* (Westport, CT: Praeger Security International, 2008), 117–34.

U.S. Priorities, Interests, and Factors

The U.S. objectives, priorities, and vital national interests in the national security strategy down to the European Commander Theatre Strategy suggest an inwardly focused nation supporting freedom and democratic principles competing globally. It also indicates a form of hierarchical relationship from the U.S. to the EU rather than an alliance between partners, while giving few details about what problem to mitigate in the national security strategy or other subordinate strategies.

From the U.S. National Security Strategy (NSS) and the Joint Operating Environment (JOE) 2035 concept make apparent several vital interests, the environment's context, and a conceptualization of acceptable risk and mitigations. Broadly, the U.S. NSS states the fundamental priorities are protecting people, the homeland, the American way of life; promoting prosperity; preserving peace through strength; and advancing influence. The U.S. NSS also highlights the intensity of the interests focused on economic free trade; democratic principles; shared security partnerships; and promoting competition while preventing conflict, deterring war, and promoting peace.³ The NSS characterizes Russia as a force bent on weakening the U.S. and its allies, partners, and security organizations while investing in modern systems, strategic capabilities, and tactics to influence global goals in a regionally focused way.

Further, U.S. European interests highlight a shared history that is the basis for a strong and free society based on democracy, liberalism, and the rule of law. Regional security support prioritizes NATO to counter Russia's malign actions, strengthen

³ States and Trump, *National Security Strategy of the United States of America*, 1–42.

strategic relationships, and enable U.S. global operations through Europe.⁴ Last, JOE 2035 articulates an environment that will exhibit persistent disorder and contested norms. The trends and conditions primarily focused on economics, diplomacy, science, technology, and engineering intersecting with strategic actors' interests. The results of those interactions shape a framework for the military instrument of power to mitigate the probability and severity of effects on the U.S. national interests for the foreseeable future.⁵

However, the foreseeable future did not account for COVID-19. The post-COVID-19 strategic environment has aligned for an opportunistic Russian Federation for a rare strategic opportunity to take advantage of European vulnerabilities due to a weak economy succumbing to high sovereign debt, a dissolving political unity, and a bifurcated European cooperative security environment. These factors enable Russia to disintegrate U.S. influence in the international order. The desired U.S. European environment values a more stable and secure future through an improved Euro-Atlantic Alliance that addresses the U.S.'s vital interests while deliberately compelling or reducing the Russian Federation's threat to those interests. The supposition then is that in the post-COVID-19 era, the United States must adjust from a focus of great power competition interest to an alternative strategic approach based on values to strengthen and fortify the Euro-Atlantic alliance with support and stability based on the assessment of the critical factors.

⁴ States and Trump, 47–48; Tod D. Wolters, *United States European Command Theater Strategy*, June 2019.

⁵ “Joint Operating Environment (JOE) 2035: The Joint Force in a Contested and Disordered World,” July 14, 2016, 53.

European and Russian Federation Key Factor Analysis

The assessment's scope considers significant factors in the post-COVID-19 environment. Still, it does not represent all strategic factors while calling attention to affected domains that will likely shape future security policies and objectives. A summary of several post-COVID-19 elements is found in Table 3.

Table 3. European and Russian Federation Key Factor Analysis

Economy	
Russian Federation Opportunity: Alternative development resource to World Bank	European Vulnerability: State Sovereign Debt at or near record high, limiting budget flexibility
<u>Goal</u> : Disband EU supranational organization while retaining free market	
<u>Effects</u> : Disrupt the EU to gain leverage over weak states to either impose Russian sovereignty or gain competitive leverage	
Political	
Russian Federation Opportunity: Alternative centralized authoritarian leadership enables decision-maker to take advantage of a strategic opportunity with few barriers	European Vulnerability: Democratic liberal order slowly erodes, exposing fissures between prosperous and struggling governments
<u>Goal</u> : Isolate Euro-Atlantic alliance members	
<u>Effects</u> : Erode confidence in U.S.-led international order	
Military	
Russian Federation Opportunity: Specialized capability to complement whole-of-government approach	European Vulnerability: Indecision on a comprehensive autonomous approach and weak support to NATO burden-sharing
<u>Goal</u> : Shatter NATO	
<u>Effects</u> : Dissolve security cooperation into individual states or less cohesive regional security partnership	

Key Factors for the EU

Since forming, the EU has never faced an existential threat such as the Soviet Union's threat during the Cold War. Today, while facing the ubiquitous effects of COVID-19, the EU key strategic vulnerability factors relate to the effect of sovereign

debt potential to disband the union, the slow erosion of democratic-led international order isolating alliance partners, and indecision on collective security vulnerabilities that could lead to disbanding NATO. The primary factor to consider is exposure to sovereign debt. Sovereign debt potentially makes the EU vulnerable to systematic financial failure and irrelevance due to a natural or provoked shock event exacerbated by its preexisting economic strained-debt environment. This event potentially manifests itself as a cascading event of failing financial sectors and ensuing security-related social disruption. Due to high sovereign debt vulnerability, state policymakers will likely focus on survival, recovery, and the debt holder's vulnerabilities vice EU policies intended for growth and opportunity.

Second, the general tendency of slowly eroding democratic principles and values implicates the Euro-Atlantic Alliance's failure; institutions and organizations built on those principles result in strategic tensions between supranational and individual state sovereign values, principles, and vital interests. As political power moves away from the EU, democratic international governmental organizations shift toward populist movements in response to slow economic growth, increased unemployment and migration, and trade tensions.⁶ Policymakers will prioritize COVID pandemic response efforts and fail to address the necessary local economic and political disparity exacerbated by shortcomings of the highly interconnected nature of the global value chains and dependence on specific nodes. With a lack of reliable energy sources as both revenue and strategic reserves, nations have a vulnerability without sufficient access or alternatives.

⁶ Jackson et al., "Global Economic Effects of COVID-19," 19–27.

Last, a vulnerable EU seeks a new credible collective security initiative in a budget-constrained COVID era while its traditional strategic partner looks inward, potentially leading to NATO dissolving. Key factors of high sovereign debt, weak global trade, states focused on vital sovereign interests and calling to question the necessity for a collective defense create a vulnerable condition for an alliance incapable of gathering the support or capability to respond to strategic threats.

Key Factors for the Russian Federation

The second part of the assessment considers the Russian Federation's threat as a regional strategic power with global aspirations fueled by an irreconcilable view to reacquire a superpower status. The most significant key factor is that Russia is led by an authoritarian leader, President Putin, who is motivated to retain power and return Russia to its former position in the international order through any means. President Putin has consolidated power, has a sophisticated understanding of networks' utility for effects, and makes decisions based on a decision model to topple the U.S.-led international order.

The second key factor is the propensity to use highly effective but limited military capabilities to set geopolitical conditions to achieve its objectives. The most significant trends follow Russia's Georgia and Ukraine information operations activities, with more emboldened and risky behavior as they test and determine their strategic reach from election influence, infrastructure destruction, political opponent assassinations, and fielding weapons systems counter international treaties.

The last key factor is economic. The Russian Federation leadership has been pragmatic about restoring financial autonomy and sovereignty through methodical and sound fiscal fundamentals. Despite sanctions and lack of trade diversification, Russia

could leverage low sovereign debt, expanding Eurasian economic opportunities as an alternative lender or positive momentum in trade to secure strategic deals to undermine vulnerable indebted nations.

The Russian Federation leverages a combination of domestic, foreign policy, and diplomatic policy rhetoric necessary to reform, realign, and restore its identity.⁷ Russian activities have become more aggressive where the country assesses low-risk, low-cost opportunities such as utilizing measures short of war and gray zone activity along its periphery. Because the international order hesitates to challenge the Russian Federation's disruptive actions, Russia continues to pursue low-risk, high-utility political-military activity to enable foreign policies. Russia aims to shatter the U.S. international order utilizing limited but practical political and economic measures to reassert itself in the reflection of holding power while maintaining coercive political and economic levers. It seeks to achieve this goal by disbanding the EU supranational organization into individual states while retaining the free market, isolate Euro-Atlantic alliance members, and dissolve NATO into a group of individual states or less cohesive regional security partners.

⁷ Allensworth, "Derzhavnost: Aleksandr Lebed's Vission for Russia," 51–56.

Chapter 5: Conclusion

*Freedom is never more than one generation away from extinction.*¹

—Ronald Reagan

Recommendations

The U.S. strategy must first resolve to refocus outwardly and support and sustain Europe as a trusted and valued ally rather than counter Russia's approaches as a superpower adversary. In doing so, the U.S.'s focus on the value of strengthening and fortifying the Euro-Atlantic Alliance and U.S.-led international order will naturally contend with changes to the world power ecosystem according to collective values and interests. While Russia aims to shatter the U.S. international order within its limited means, a U.S. strategy moves away from an interest in the Russian Federation's great power model that Russia seeks to relevance. A U.S. strategy that strengthens the Euro-Atlantic economic, political, and military-strategic factors will be better suited to the long-term common strategic influence and counter Russia's objectives to disband the EU into individual states, isolating Euro-Atlantic Alliance members, and dissolving NATO into a group of individual states or less cohesive regional security partners. In so doing, the U.S. avoids recovering from conditions of failure that are potentially catastrophic economically, politically, and militarily given the current strategic competitive environment described in the Joint Operating Environment concept and highlighted in Table 4.

The most prominent but complicated overall factor to address is political unity by fortifying common areas and strengthening areas where fissures exist to prevent isolation

¹ "Ronald Reagan: Remarks at the Annual Convention of Kiwanis International," Ronald Reagan Presidential Foundation and Institute, July 6, 1987, <https://www.reaganfoundation.org/ronald-reagan/reagan-quotes-speeches/remarks-at-the-annual-convention-of-kiwanis-international/>.

from the U.S.'s traditional alliance partner. This approach counters Russia's attempts to isolate the U.S. from the EU politically. The EU is a bureaucratic, complex democratic government system of systems that requires persistent engagement. Persistent engagement enables policymakers to align values and approaches through engagement advocacy and champion democratic liberal values and principles. The nature of the COVID-19 pandemic forced all governments to focus on the survival of their constituencies. The sooner the U.S. decides to pivot toward its European partners, the sooner it can minimize the potential of states seeking aid, relief, and the unintended costs associated with dealing with the Russian Federation re-establishing a network to leverage the many enabling education, innovation, and trade factors among the Euro-Atlantic Alliance.

The most important long-term investment factors to address are the economic vulnerabilities COVID-19 has made readily apparent and could be leveraged to disrupt the free markets. This approach counters Russia's disruption of the market-based EU economy. One method to protecting the vulnerable debt-laden EU without jeopardizing critical U.S. interests is through innovation and growth initiatives representing commonly shared sectors of interest such as infrastructure, technology, and research and development. These sectors would capitalize on the combined strategic advantage of the high, medium, and commercial-type jobs and the post-graduate academic programs that tend to support materialistic consumerism values but could gain a balance toward sustainable, fulfillment, and responsibility-based value to markets. Although aspirational, it is likely not politically desirable or feasible to protect and fortify significant portions of the Euro-Atlantic sovereign debt or underwrite monetary or fiscal policy beyond the

current coordinating organizations and agencies. However, opening communications to incentivize mutually beneficial programs, such as the European Deterrence Initiative or the Atlantic Council, provides models for coordination combined with deliberate value-based investments to protect disrupting or disbanding the EU.

Last, the most critical short-term factors to address are the military compatibility and support areas that strengthen the cooperative security to shore up and fortify NATO's and the EU's legitimacy through common collective security interests. This approach counters Russia's attempts to shatter or disband NATO, aimed at the Euro-Atlantic Security Alliance's legitimacy. The European region is a vital strategic interest for the U.S. economically, politically, and socially. Recognizing the significance of the COVID-19 pandemic making states vulnerable demands extraordinary measures by a capable partner. Aligning with EU goals for autonomy will link force development and generation goals to drive integration and interoperability while informing innovation initiatives. Last, de-linking burden-sharing and focusing on another EU-defined value-based metric related to the current Common Security and Defense Policy and European Intervention Policy could cement buy-in from EU stakeholders.

Table 4. U.S. Strategic Factor Considerations

Economy vulnerability: State Sovereign Debt at or near a record high, limiting budget flexibility
Goal: Incentivize and transform free market toward sustainable alliance growth goals
Effects: Protect and invigorate alliance economic growth and development
What: Infrastructure: Energy, carbon emission, climate Technology: Communication, sustainability Research and Development: Communication, data, AI

Political Vulnerability: Democratic liberal order slowly erodes, exposing fissures between prosperous and struggling governments

Goal: Recommit support to stabilize democratic institutions, organizations, and networks

Effects: Fortify and strengthen U.S.-led international political order

What:

Policy: Fiscal and monetary, tax incentives, quantitative easing

Networks: Integration of inclusive international and government organization power networks

Education and training: Comprehensive education reform, online infrastructure

Migration: Comprehensive reform for movement of labor

Trade: Resolve transatlantic barriers to trade

Military vulnerability: Indecision on comprehensive autonomous security approach and weak support to NATO

Goal: Reinforce NATO by integrating security partners and assisting the development of EU-compatible autonomous security cooperative model

Effects: Strengthen compatability and support security partners

What:

Burden sharing: De-link contribution requirements and enforce value-based participation

Development: Align transatlantic force development and generation goals; incentivize innovation

Conclusion

From this analysis, it is clear that framing the U.S. security strategy in terms of a great power competition is no longer relevant in the post-COVID strategic environment. With its broad characterizations, the current national strategic guidance misses the specificity of EU vulnerabilities and Russian Federation opportunities. Instead, labeling the Russian Federation as a great power harkening back to a static Cold War mentality misattributes the current threat to the EU, a vital U.S. interest.

The vulnerabilities that could manifest themselves in the short term in Europe could give the Russian Federation multiple lines of attack to destroy the bedrock institutions of modern Europe and isolate the U.S. from Europe. As a result, Europe

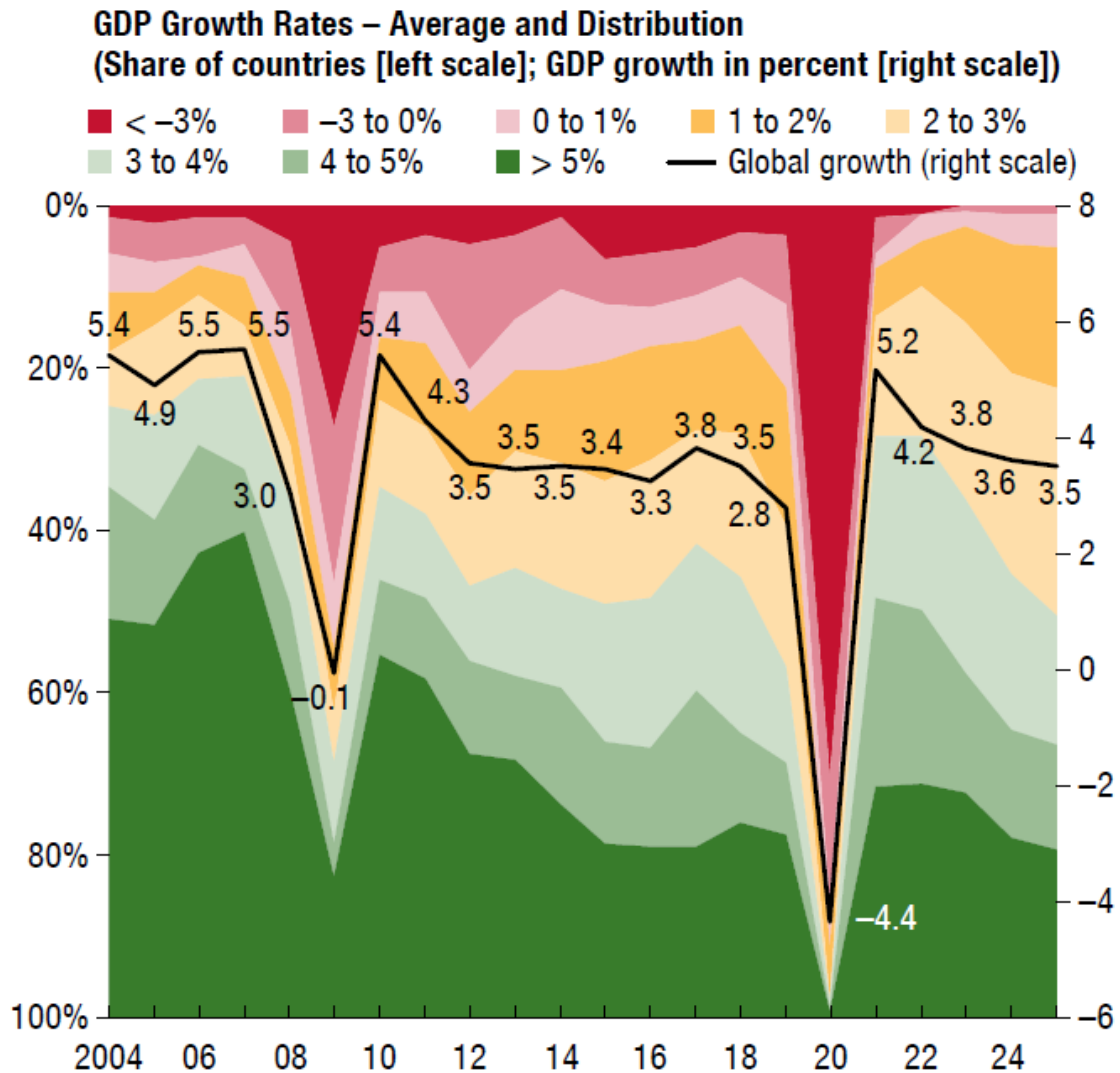
would no longer be an ally but a hodge-podge of independent states all struggling for stability. To prevent this, the U.S. must consider approaches to protect and invigorate alliance economic growth and development, fortify and strengthen U.S.-led international political order, and strengthen compatible and supportive security cooperation to promote alliance stability.

Through this limited review of the EU's vulnerabilities and Russian Federation opportunities, it is apparent Russia continues to press high-risk, aggressive, and progressively bolder activity to gain a strategic advantage. It becomes apparent the United States' "great power" competition strategy is not effective. These conditions are reminiscent of the period when the National Security Council policy paper 68 was published. Then, Soviet behavior and leaders were described to endeavor to control positions of power and influence, seized opportunities of weakness and instability, waged political, economic, and physiological warfare to dominate the world.² Today, Russia repeats old patterns but with modern capability, increased aggressiveness, and higher strategic stakes. It would be prudent to follow President Truman's direction and complete a re-appraisal of the international situation followed by a comprehensive set of policies with contemporary future-looking views as the current policies are insufficient for the Russian Federation's possibilities is pursuing against the Euro-Atlantic Alliance.

² Heuser, "NSC 68 and the Soviet Threat: A New Perspective on Western Threat Perception and Policy Making," 19–40.

Appendix A: Economics

A1 IMF Global Stability—GDP Growth Rates



Note: Graph illustrates general negative global trend with two severe economic events comparable to the Great Depression and World War II.

Source: Global Financial Stability Report: Bridge to Recovery.

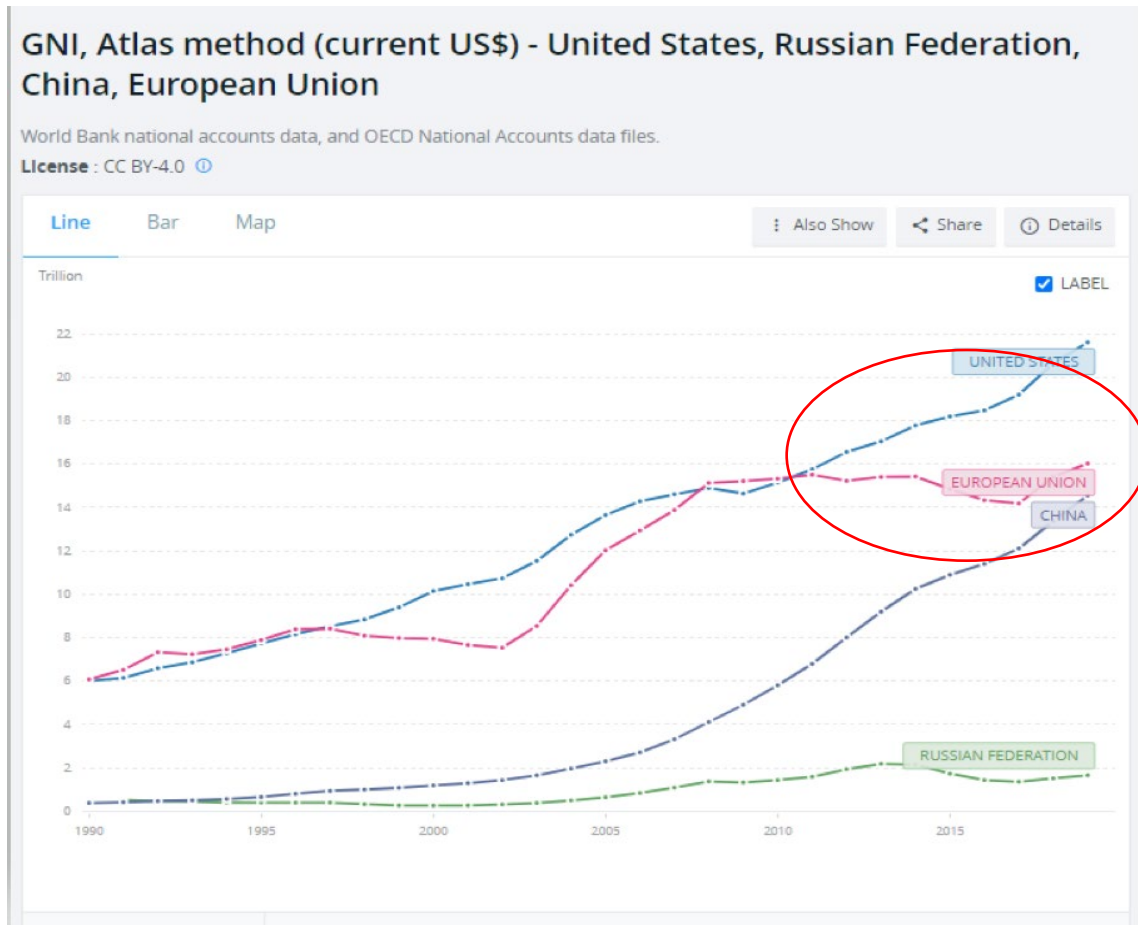
A2 GDP-PPP U.S., RF, China, and EU



Note: This comparison is of supranational GDP-PPP trends to compare countries' and regions' currencies, productivity, and standards of living averaged across the entire population.

Source: The World Bank Data

A3 GNI U.S., RF, China, and EU



Note: GNI trends compare the different countries' and regions' total amount of money earned used as a measure of tracking wealth. There is a significant divergence between the U.S. and EU post-2008 recession, circled in red, that suggests there may be a disparity wealth generation capability across regions of the EU when compared to the relative GDP-PPP.

Source: The World Bank Data

A4 UN Rates of Growth of Real GDP

Annual percentage change

	1997–2011 ^a	2012	2013	2014	2015	2016	2017	2018	2019 ^b	2020 ^c	2021 ^c
Developed economies	2.0	1.1	1.2	1.9	2.3	1.7	2.4	2.2	1.7	1.5	1.7
United States	2.4	2.2	1.8	2.5	2.9	1.6	2.4	2.9	2.2	1.7	1.8
Canada	2.7	1.8	2.3	2.9	0.7	1.1	3.0	1.9	1.5	1.5	1.6
Japan	0.6	1.5	2.0	0.4	1.2	0.6	1.9	0.8	0.7	0.9	1.3
Australia	3.3	3.9	2.2	2.6	2.5	2.8	2.5	2.7	1.8	2.1	2.2
New Zealand	2.8	2.6	2.2	3.1	4.1	4.2	2.7	2.8	2.6	2.9	2.8
European Union	1.9	-0.4	0.3	1.7	2.3	2.0	2.6	2.0	1.4	1.6	1.7
EU-15	1.8	-0.5	0.2	1.6	2.2	1.9	2.4	1.8	1.2	1.4	1.6
Austria	2.1	0.7	0.0	0.7	1.0	2.1	2.5	2.4	1.3	1.5	1.6
Belgium	2.1	0.2	0.2	1.3	1.7	1.5	1.7	1.4	1.4	1.6	2.0
Denmark	1.4	0.2	0.9	1.6	2.3	2.4	2.3	1.5	1.9	2.0	2.0
Finland	2.7	-1.4	-1.0	-0.4	0.6	2.6	3.1	1.7	1.4	1.6	1.7
France	1.9	0.3	0.6	1.0	1.1	1.1	2.3	1.7	1.3	1.5	1.6
Germany	1.4	0.4	0.4	2.2	1.7	2.2	2.5	1.5	0.7	1.3	1.4
Greece	1.5	-7.3	-3.2	0.7	-0.4	-0.2	1.5	1.9	1.7	1.9	2.0
Ireland	4.6	0.2	1.4	8.6	25.2	3.7	8.1	8.2	4.3	3.1	3.2
Italy	0.8	-3.0	-1.8	0.0	0.8	1.3	1.7	0.8	0.1	0.6	0.7
Luxembourg	3.8	-0.4	3.7	4.3	4.3	4.6	1.8	3.1	2.1	2.3	2.0
Netherlands	2.2	-1.0	-0.1	1.4	2.0	2.2	2.9	2.6	1.6	1.8	1.2
Portugal	1.5	-4.1	-0.9	0.8	1.8	2.0	3.5	2.4	2.0	2.1	1.9
Spain	2.6	-3.0	-1.4	1.4	3.8	3.0	2.9	2.4	2.2	1.9	1.9
Sweden	2.7	-0.6	1.1	2.7	4.4	2.4	2.4	2.3	1.8	1.9	2.2
United Kingdom	2.1	1.5	2.1	2.6	2.4	1.9	1.9	1.4	1.1	1.2	1.8
EU-13	3.4	0.7	1.2	3.0	3.9	3.2	4.8	4.3	3.8	3.3	3.2
Bulgaria	3.3	0.4	0.3	1.9	4.0	3.8	3.5	3.1	3.6	3.0	2.9
Croatia	2.4	-2.2	-0.6	-0.1	2.5	3.4	3.2	2.5	2.8	2.7	2.5
Cyprus	3.5	-3.5	-6.5	-1.9	3.4	6.7	4.4	4.0	3.4	2.7	2.9
Czechia	2.5	-0.8	-0.5	2.7	5.3	2.5	4.4	3.0	2.7	2.5	2.4
Estonia	4.4	3.1	1.3	3.0	1.8	2.6	5.7	4.8	3.9	3.5	3.0
Hungary	2.5	-1.5	2.0	4.2	3.8	2.2	4.3	5.1	5.0	3.8	3.5
Latvia	4.5	4.0	2.4	1.9	3.0	2.1	4.6	4.8	2.6	3.0	3.0
Lithuania	4.5	3.8	3.6	3.5	2.0	2.6	4.2	3.6	3.8	3.0	2.7
Malta	2.9	2.8	4.6	8.7	10.8	5.7	6.7	6.8	4.8	5.0	4.5
Poland	4.3	1.6	1.4	3.3	3.8	3.1	4.9	5.1	4.3	3.6	3.6
Romania	2.6	2.1	3.5	3.4	3.9	4.8	7.0	4.1	4.1	3.8	3.5
Slovakia	4.2	1.7	1.5	2.8	4.2	3.1	3.2	4.1	2.5	2.7	2.9
Slovenia	3.0	-2.6	-1.0	2.8	2.2	3.1	4.8	4.1	2.6	2.7	2.7
Other Europe	2.0	1.7	1.5	2.2	1.6	1.5	2.1	2.2	1.8	1.9	2.1
Iceland	3.4	1.3	4.1	2.1	4.7	6.6	4.4	4.8	3.8	2.8	2.6
Norway	2.0	2.7	1.0	2.0	2.0	1.1	2.3	1.3	1.9	2.1	2.2
Switzerland	2.1	1.0	1.9	2.4	1.3	1.7	1.8	2.8	1.7	1.8	1.9
Memorandum Items											
North America	2.5	2.2	1.9	2.6	2.7	1.6	2.4	2.8	2.1	1.7	1.7
Developed Asia and Pacific	1.0	2.0	2.0	0.8	1.5	1.1	2.1	1.2	1.0	1.1	1.5
Europe	1.9	-0.3	0.3	1.8	2.3	2.0	2.6	2.0	1.5	1.6	1.7
Major developed economies	1.8	1.4	1.4	1.9	2.1	1.5	2.3	2.0	1.5	1.4	1.6
Euro area	1.8	-0.9	-0.3	1.4	2.1	1.9	2.5	1.9	1.2	1.4	1.5

Note 1: US Real GDP has remained stable over the last two decades and forecasts 20–30 percent negative COVID impact, highlighted in dark blue.

Note 2: EU Real GDP has remained stable over the last two decades, had a 30 percent decrease in 2019, and forecasts 20–30 percent negative COVID impact, highlighted in blue.

Source: World Economic Situation and Prospects 2020

A4 (cont.) UN Rates of Growth of Real GDP

Annual percentage change

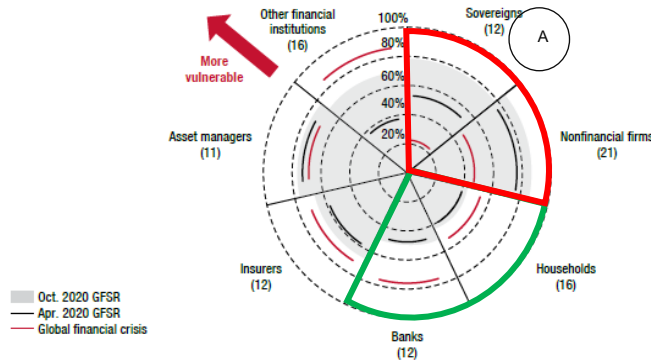
	1997–2011 ^a	2012	2013	2014	2015	2016	2017	2018	2019 ^b	2020 ^c	2021 ^c
Economies in transition	4.5	3.5	2.4	1.0	-1.8	0.8	2.2	2.7	1.9	2.3	2.5
<i>South-Eastern Europe</i>	4.1	-0.5	2.6	0.2	2.4	3.2	2.5	3.9	3.1	3.4	3.4
Albania	5.0	1.5	1.0	1.8	2.2	3.3	3.8	4.1	2.6	3.0	3.0
Bosnia and Herzegovina	6.7	-0.9	2.4	1.2	3.1	3.1	3.2	3.1	2.5	3.0	3.0
Montenegro	3.5	-2.7	3.5	1.8	3.4	2.9	4.7	4.5	3.0	3.0	3.0
North Macedonia	3.0	-0.4	2.9	3.6	3.8	2.9	0.2	2.7	3.4	3.2	3.4
Serbia	3.3	-0.7	3.0	-1.6	1.8	3.4	2.0	4.5	3.4	3.8	3.8
<i>Commonwealth of Independent States and Georgia^d</i>	4.6	3.6	2.4	1.0	-1.9	0.7	2.1	2.7	1.8	2.3	2.4
<i>Commonwealth of Independent States and Georgia – net fuel exporters</i>	4.6	3.8	2.4	1.3	-1.7	0.4	1.9	2.5	1.5	2.1	2.2
Azerbaijan	11.9	2.2	5.8	2.8	1.0	-3.1	0.1	1.4	2.3	2.5	2.6
Kazakhstan	6.9	4.8	6.0	4.2	1.2	1.1	4.0	4.1	4.0	3.5	3.5
Russian Federation	4.2	3.7	1.8	0.7	-2.3	0.3	1.6	2.3	1.1	1.8	2.0
Turkmenistan	7.1	11.1	10.2	10.3	6.5	6.2	6.5	6.2	6.2	5.6	5.2
<i>Commonwealth of Independent States and Georgia – net fuel importers</i>	4.5	2.4	2.3	-0.8	-3.3	2.3	3.6	4.0	3.9	3.7	3.8
Armenia	7.0	7.2	3.3	3.6	3.2	0.2	7.5	7.5	6.5	5.4	5.6
Belarus	7.2	1.7	1.0	1.7	-3.8	-2.5	2.5	3.0	1.1	2.0	2.5
Georgia ^d	5.9	6.4	3.4	4.6	2.9	2.8	4.8	4.7	4.8	4.5	4.5
Kyrgyzstan	4.5	-0.1	10.9	4.0	3.9	4.3	4.6	3.5	5.8	4.5	4.1
Republic of Moldova	3.3	-0.6	9.0	5.0	-0.3	4.4	4.7	2.8	5.2	3.9	3.8
Tajikistan	6.8	7.5	7.4	6.7	6.0	6.9	7.1	7.0	7.0	6.0	5.9
Ukraine ^e	3.0	0.2	0.0	-6.6	-9.8	2.4	2.5	3.3	3.6	3.0	3.0
Uzbekistan	6.4	8.2	8.0	8.0	7.9	6.2	5.2	5.1	5.7	5.7	5.5

Note 1: The Russian Federation Real GDP was significantly impacted in 2014–2016, recovered to 40–50 percent of the last two decades' historical average, and is forecasted for 50–60 percent negative COVID impact, highlighted in red.

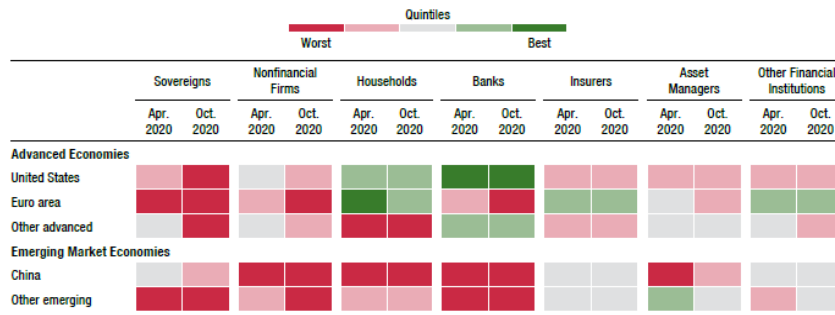
Source: World Economic Situation and Prospects 2020

A5 IMF Global Vulnerabilities

1. Proportion of Systemically Important Countries with Elevated Vulnerabilities, by Sector
(Percent of countries with high and medium-high vulnerabilities, by GDP [assets of banks, asset managers, other financial institutions, and insurers]; number of vulnerable countries in parentheses)



2. Financial Vulnerabilities by Sector and Region



Note: Vulnerabilities have increased across regions in private and sovereign sectors due to a COVID-19 corporate borrowing surge, whereas non-bank financial sectors remain elevated.

In panel 1, “global financial crisis” reflects changing shifts in debt levels between crises, shifts in debt between sectors, and percentages of countries with high and medium-high vulnerabilities. Two key take-aways are the shift of debt from the global financial crisis until 2020 from banks and households (green highlight) to sovereigns and non-financials (red highlight) and the rate of debt growth of sovereigns from April to October 2020 (A).

In panel 2, dark red shading indicates a value in the top 20 percent of pooled samples for each sector during 2000–20, and dark green shading indicates values in the bottom 20 percent.

In panels 1 and 2, for households, the debt service ratio for emerging market economies is based on all private nonfinancial corporations and households.

Other systemically important advanced economies comprise Australia, Canada, Denmark, Hong Kong Special Administrative Region, Japan, Korea, Norway, Singapore, Sweden, Switzerland, and the United Kingdom. Other systemically important emerging market economies are Brazil, India, Mexico, Poland, Russia, and Turkey.

Source: Global Financial Stability Report: Bridge to Recovery

A6 UN Unemployment Rates

Percentage of labour force											
	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^c	2020 ^d	2021 ^d
Developed economies	8.5	9.5	8.5	7.8	7.1	6.5	5.8	5.2	4.9	4.9	4.9
United States	8.9	8.1	7.4	6.2	5.3	4.9	4.4	3.9	3.7	3.6	3.7
Canada	7.5	7.3	7.1	6.9	6.9	7.0	6.3	5.8	5.6	5.9	6.2
Japan	4.6	4.4	4.0	3.6	3.4	3.1	2.8	2.4	2.4	2.4	2.3
Australia	5.1	5.2	5.7	6.1	6.1	5.7	5.6	5.3	5.4	5.7	6.0
New Zealand	6.0	6.4	5.8	5.4	5.4	5.1	4.7	4.3	4.2	4.0	4.0
European Union	9.7	10.5	10.9	10.2	9.4	8.5	7.6	6.8	6.4	6.3	6.1
EU-15	9.6	10.6	11.1	10.5	9.8	9.0	8.2	7.5	7.0	6.9	6.8
Austria	4.6	4.9	5.4	5.6	5.7	6.0	5.5	4.9	4.7	5.2	5.3
Belgium	7.2	7.6	8.4	8.5	8.5	7.8	7.1	6.0	5.4	5.1	4.9
Denmark	7.6	7.5	7.0	6.6	6.2	6.2	5.7	5.0	4.5	4.4	3.9
Finland	7.8	7.7	8.2	8.7	9.4	8.8	8.6	7.4	6.7	6.4	6.0
France	9.2	9.8	10.3	10.3	10.4	10.1	9.4	9.1	8.8	8.7	8.5
Germany	5.8	5.4	5.2	5.0	4.6	4.1	3.8	3.4	3.3	3.4	3.4
Greece	17.9	24.5	27.5	26.5	24.9	23.6	21.5	19.3	17.5	15.9	14.3
Ireland	15.4	15.5	13.8	11.9	10.0	8.4	6.7	5.8	5.3	6.4	7.3
Italy	8.4	10.7	12.1	12.7	11.9	11.7	11.2	10.6	10.4	10.7	10.8
Luxembourg	4.8	5.1	5.9	6.0	6.5	6.3	5.6	5.5	5.4	5.8	5.9
Netherlands	5.0	5.8	7.3	7.4	6.9	6.0	4.9	3.8	3.4	3.4	3.7
Portugal	12.9	15.8	16.4	14.1	12.6	11.2	9.0	7.0	5.6	4.7	4.3
Spain	21.4	24.8	26.1	24.5	22.1	19.6	17.2	15.3	13.8	12.8	11.8
Sweden	7.8	8.0	8.0	7.9	7.4	6.9	6.7	6.3	6.1	6.0	5.8
United Kingdom	8.1	7.9	7.5	6.1	5.3	4.8	4.3	4.0	4.0	4.2	4.3
EU-13	9.8	10.0	10.1	9.0	7.9	6.6	5.4	4.4	3.9	3.8	3.6
Bulgaria	11.3	12.3	13.0	11.4	9.2	7.6	6.2	5.2	4.5	4.2	3.9
Croatia	13.7	15.8	17.4	17.2	16.1	13.4	11.0	8.4	6.8	6.0	5.5
Cyprus	7.9	11.9	15.9	16.1	15.0	13.0	11.1	8.4	6.8	6.0	5.3
Czech Republic	6.7	7.0	7.0	6.1	5.1	4.0	2.9	2.2	1.8	2.1	2.0
Estonia	12.3	10.0	8.6	7.4	6.2	6.8	5.8	5.4	5.2	5.1	4.8
Hungary	11.0	11.0	10.2	7.7	6.8	5.1	4.2	3.7	3.5	3.5	3.5
Latvia	16.2	15.0	11.9	10.8	9.9	9.6	8.7	7.4	7.1	6.8	6.7
Lithuania	15.4	13.4	11.8	10.7	9.1	7.9	7.1	6.2	5.6	5.2	4.8
Malta	6.4	6.2	6.1	5.7	5.4	4.7	4.0	3.7	3.7	4.0	4.1
Poland	9.7	10.1	10.3	9.0	7.5	6.2	4.9	3.9	3.5	3.5	3.3
Romania	7.2	6.8	7.1	6.8	6.8	5.9	4.9	4.2	3.8	3.6	3.4
Slovakia	13.7	14.0	14.2	13.2	11.5	9.7	8.1	6.5	5.9	5.5	5.3
Slovenia	8.2	8.9	10.1	9.7	9.0	8.0	6.6	5.1	4.1	3.7	3.3
Other Europe	4.1	4.1	4.4	4.4	4.7	4.8	4.5	4.4	4.1	4.2	4.2
Iceland	7.1	6.0	5.4	5.0	4.0	3.0	2.8	2.7	2.0	2.4	2.6
Norway	3.4	3.3	3.8	3.6	4.5	4.8	4.2	3.9	3.4	3.2	2.8
Switzerland	4.4	4.5	4.7	4.8	4.8	4.9	4.8	4.7	4.6	4.9	5.1
Memorandum items:											
North America	8.8	8.0	7.3	6.2	5.5	5.1	4.6	4.1	3.9	3.9	4.0
Developed Asia and Pacific	4.7	4.5	4.3	4.0	3.8	3.6	3.3	2.9	2.9	3.0	3.0
Europe	9.5	10.3	10.7	10.0	9.3	8.4	7.5	6.8	6.3	6.2	6.1
Major developed economies	7.6	7.4	7.1	6.4	5.8	5.4	5.0	4.5	4.4	4.4	4.5
Euro area	10.2	11.4	12.0	11.6	10.9	10.0	9.1	8.2	7.7	7.5	7.3

Note 1: U.S. unemployment broadly reduced over the previous 10 years to record lows until the start of the COVID pandemic, highlighted in dark blue box.

Note 2: EU unemployment broadly reduced over the previous 10 years but with regions that experience traditionally higher levels and are more susceptible to economic downturns, highlighted in light blue box.

Source: World Economic Situation and Prospects 2020

A6 (cont) UN Unemployment Rates

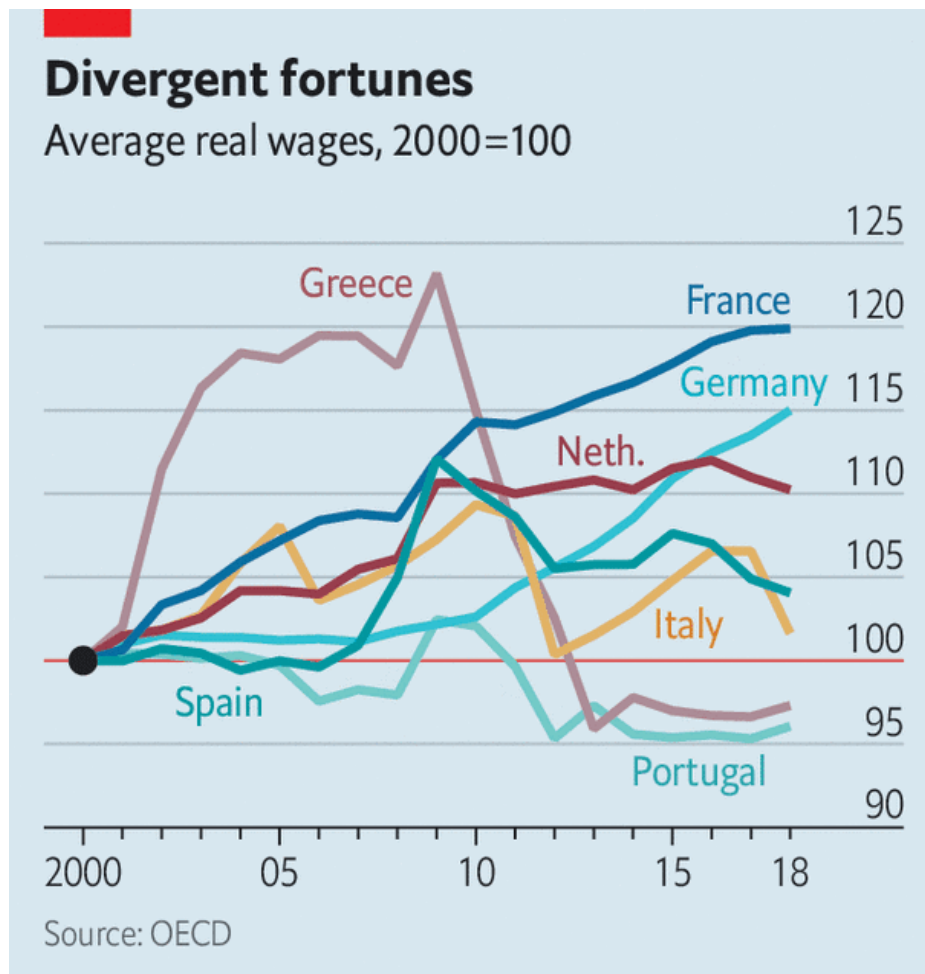
Percentage of labour force

	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^b
South-Eastern Europe									
Albania	13.5	13.4	15.9	17.5	17.1	15.2	13.8	12.3	12.0
Bosnia and Herzegovina	27.6	28.0	27.5	27.5	24.4	22.4	18.1	18.4	18.1
Montenegro	19.7	20.0	19.5	18.0	17.5	17.7	16.1	15.2	14.5
North Macedonia	31.4	46.1	29.0	39.3	26.1	23.7	22.4	20.7	17.9
Serbia	23.0	24.0	22.2	19.2	17.7	15.3	13.5	12.7	11.0
Commonwealth of Independent States and Georgia^c									
Armenia	21.6	17.3	16.2	15.5	15.8	15.6	13.7	12.2	10.9
Azerbaijan	5.5	5.3	5.1	4.9	4.9	5.0	5.0	4.9	4.8
Belarus	0.6	0.5	0.5	0.5	1.0	5.8	5.7	4.8	4.6
Georgia ^c	19.6	19.7	19.4	17.4	16.5	16.6	13.9	12.2	10.6
Kazakhstan	5.4	5.3	5.2	5.1	4.9	5.0	4.9	4.7	4.5
Kyrgyzstan	8.5	8.4	4.1	8.1	7.6	7.2	6.9	6.7	6.6
Republic of Moldova	6.7	5.6	5.1	3.9	3.7	4.2	4.1	3.0	5.1
Russian Federation	6.5	5.4	5.5	5.2	5.6	5.6	5.2	4.8	4.5
Tajikistan	5.8	5.9	5.9	5.8	5.7	5.5	5.4	5.3	5.2
Turkmenistan	4.0	4.0	4.0	3.9	3.8	3.6	3.7	3.8	3.8
Ukraine ^d	7.9	7.5	7.2	9.3	9.1	9.3	9.5	8.8	8.6
Uzbekistan	5.0	4.9	4.9	5.1	5.2	5.2	5.8	6.2	6.1
Africa									
Algeria	10.0	11.0	9.8	10.2	11.2	10.2	9.4	8.7	8.1
Botswana	17.8	17.9	18.3	18.2	18.0	17.7	17.7	17.8	17.8
Egypt	11.8	12.6	13.2	13.1	13.1	12.4	11.7	11.0	10.1
Mauritius	7.5	7.5	7.3	7.5	7.4	6.8	6.8	6.8	6.9
Morocco	8.9	9.0	9.2	9.7	9.5	9.3	9.2	9.9	10.2
South Africa	24.7	24.7	24.6	24.9	25.2	26.6	27.1	26.9	27.3
Tunisia	18.3	17.6	15.9	15.1	15.2	15.5	15.4	15.5	15.7
Latin America and the Caribbean									
Argentina	7.2	7.2	7.1	7.3	6.5	8.5	8.4	9.2	10.5
Barbados	11.2	11.6	11.6	12.3	11.3	9.7	10.0	10.1	11.9
Bolivia (Plurinational State of)	3.8	3.2	4.0	3.5	4.4	4.7	5.1	4.9	4.7
Brazil	6.0	8.2	8.0	7.8	9.3	13.0	14.5	14.2	14.3
Chile	7.4	6.7	6.2	6.7	6.4	6.8	6.9	7.3	7.1
Colombia	11.8	11.4	10.7	10.0	9.8	10.3	10.5	10.9	11.0
Costa Rica	7.7	9.8	9.1	9.5	9.7	9.6	9.0	10.3	11.6
Dominican Republic	6.7	7.2	7.9	7.2	7.9	7.9	6.1	6.1	5.9
Ecuador	5.0	4.2	4.0	4.3	4.7	5.9	5.0	4.7	5.8
El Salvador	6.6	6.2	5.6	6.7	6.5	6.9	6.8	6.1	6.0
Guatemala	3.1	4.0	3.8	4.0	3.2	3.4	3.2	3.9	4.3
Honduras	6.8	5.6	6.0	7.5	8.8	9.0	8.2	8.0	9.7
Jamaica	12.6	13.9	15.2	13.7	13.5	13.2	11.7	9.1	8.0
Mexico	5.6	5.4	5.4	5.3	4.7	4.3	3.8	3.6	3.7
Nicaragua	8.1	8.7	7.7	8.5	7.7	6.3	5.2	7.5	10.4

Note: Russian Federation unemployment broadly reduced over the previous 10 years until the start of the COVID pandemic in 2020, highlighted in red box.

Source: World Economic Situation and Prospects 2020

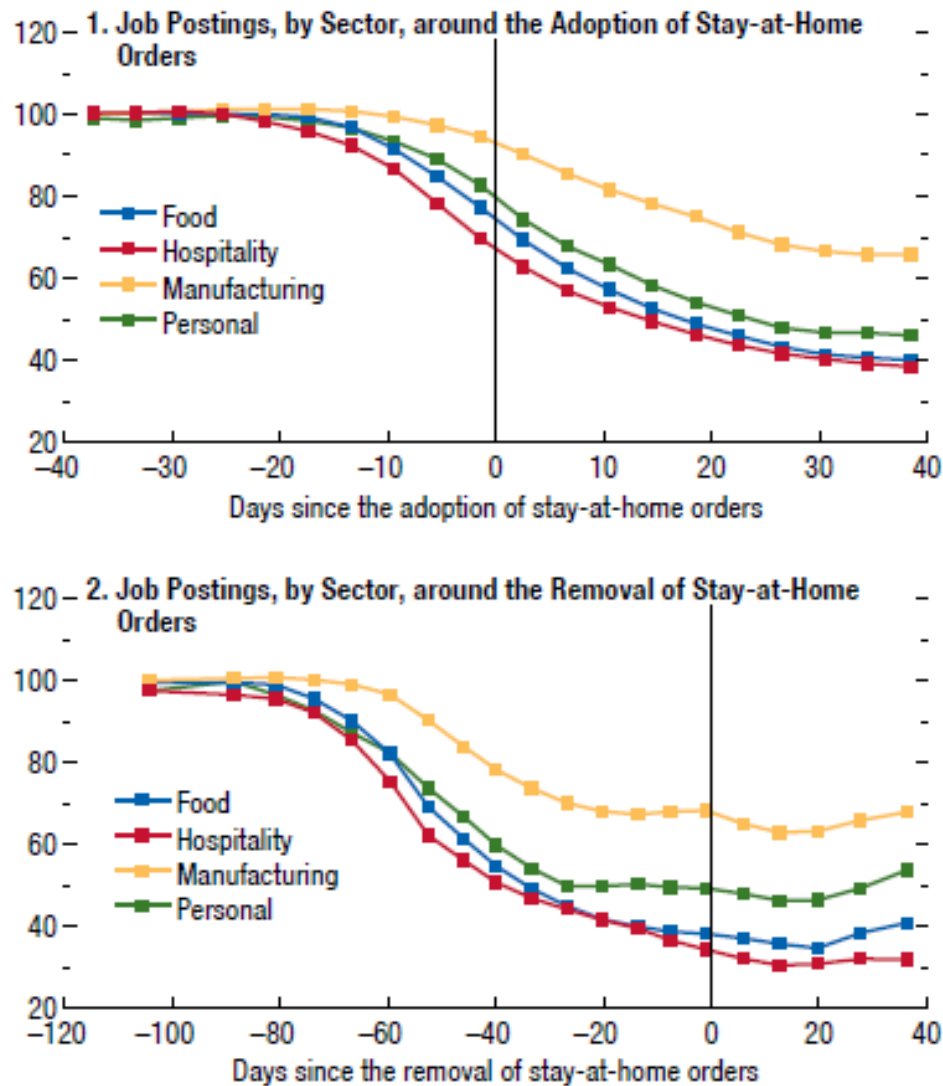
A7 EU Wage Divergence 2000–2018



Note: Highlights regional wage disparity between the northern and southern European regions.

Source: Searching for Meaning: The COVID-19 Pandemic Puts Pressure on the EU

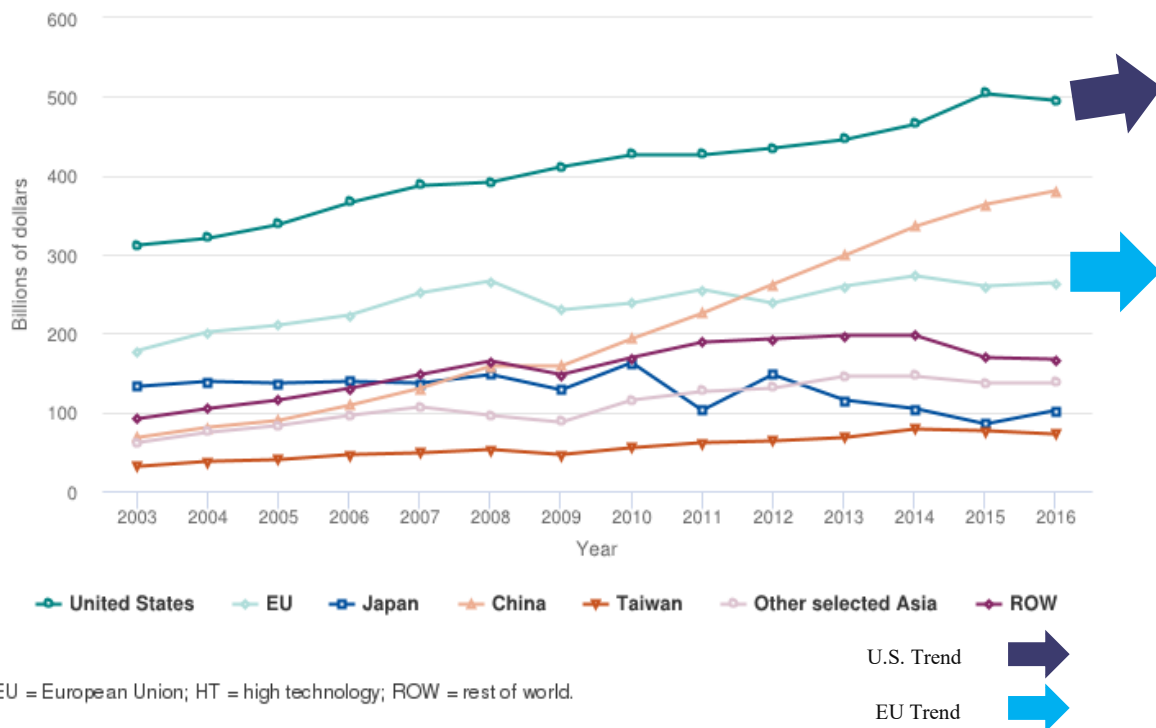
A8 COVID-19 Lockdown and Volatility Impacts on Job Postings



Note: This figure shows the evolution over time of the seven-day moving average of job postings by sector: Upper and lower chart contrast pre-lockdown and post-lockdown job availability as measured by posting and indicate the economic sector sensitivity to lockdown measures pre-lockdown and the nature of the recovery post-lockdown.

Source: International Migration Outlook 2020

A9 Output of High Technology Manufacturing Industries 2003–16



Note 1: U.S. and EU HT manufacturing is on a value-added basis. Value added is the amount contributed by a country, firm, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. The U.S. and EU are sector leaders and have trended at or near the ROW growth.

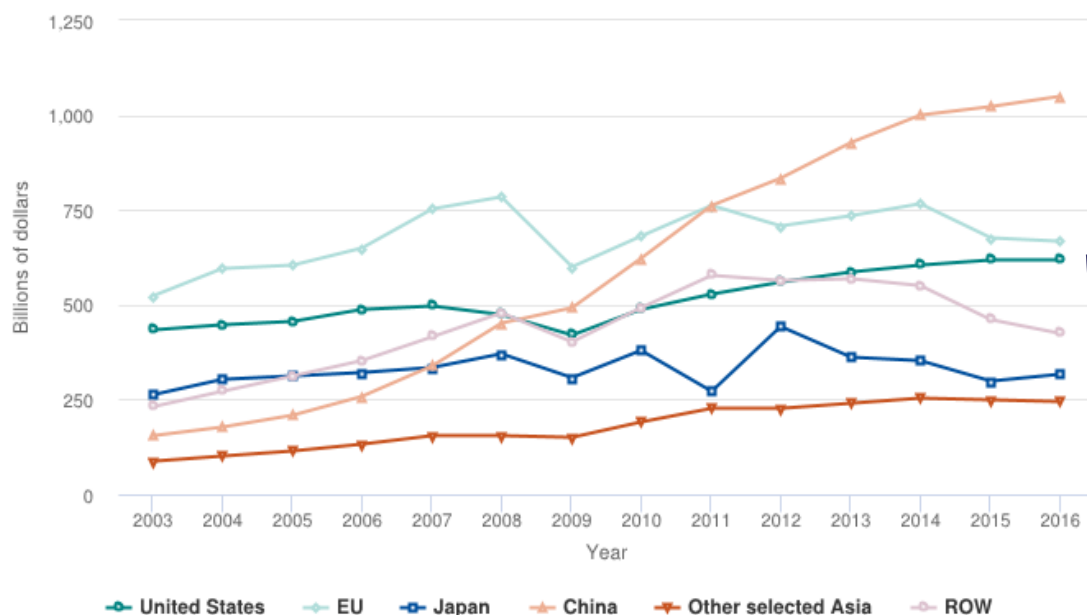
Note 2: HT manufacturing industries are based on Organization for Economic Cooperation and Development and include aircraft, spacecraft, communications, computers, pharmaceuticals, semiconductors, and control instruments.

Note 3: Russian Federation data is not available, but evidence suggests that due to significant immigration of over 500,000 scientists through 2002 and centralized control of academies and institutions by the government, although elite, the broader innovative economic impact is limited and focused on military applications.¹

Source: Overview of the State of the U.S. S&E Enterprise in a Global Context

¹ “Russia,” in *S&T Strategies of Six Countries: Implications for the United States* (Washington, DC: The National Academies Press, 2010), 59–63, <https://www.nap.edu/read/12920/chapter/9>.

A10 Output of Medium Technology Manufacturing Industries 2003–16



EU = European Union; MHT = medium-high technology; ROW = rest of world.

U.S. Trend

EU Trend

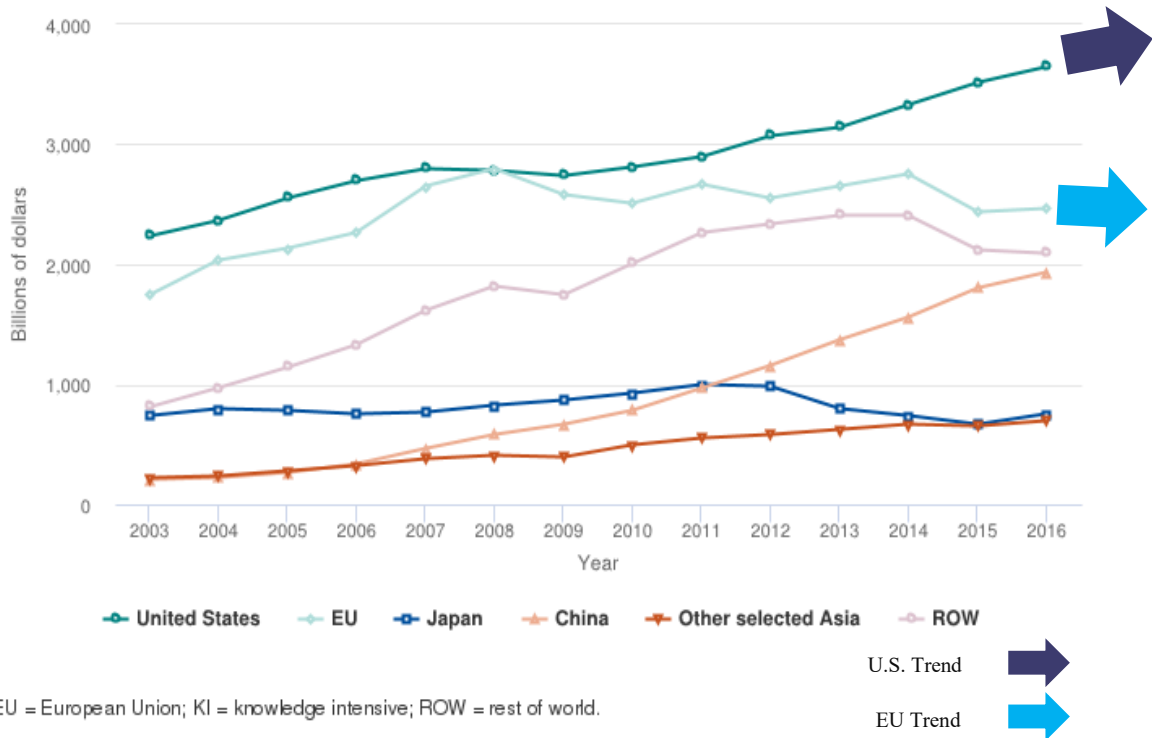
Note 1: Output of MHT manufacturing is on a value-added basis. Value added is the amount contributed by a country, firm, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. U.S. is a sector laggard while the EU is a sector leader as compared to the ROW.

Note 2: MHT manufacturing industries are based on a former classification by the Organization for Economic Cooperation and Development and include automotive, chemicals, electrical machinery, motor vehicles, railroad, shipbuilding, and other transportation.

Note 3: Data are not available for the Russian Federation and EU members Cyprus, Estonia, Latvia, Lithuania, Luxembourg, Malta, and Slovenia.

Source: Overview of the State of the U.S. S&E Enterprise in a Global Context

A11 Output of Commercial Knowledge Intensive Service Industries 2003–2016



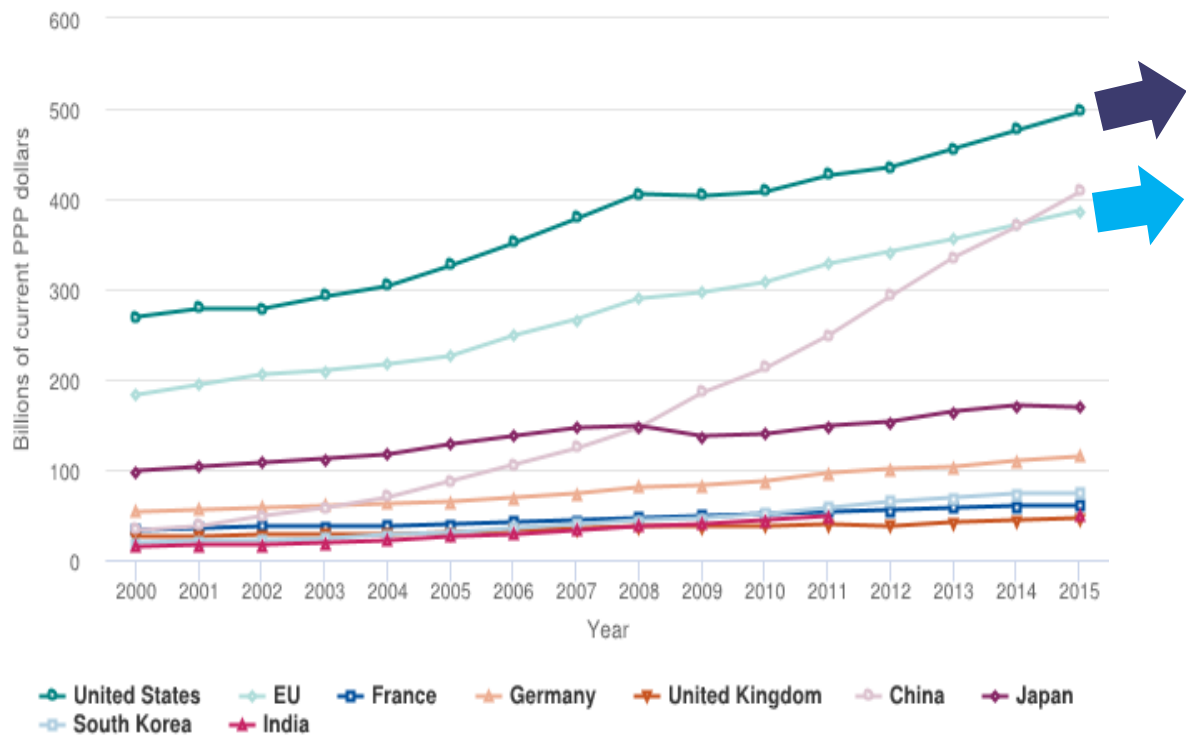
Note 1: Output of commercial KI services is on a value-added basis. Value added is the amount contributed by a country, firm, or other entity to the value of a good or service and excludes purchases of domestic and imported materials and inputs. The U.S. and the EU are sector leaders as compared to the ROW.

Note 2: Commercial KI services are based on a former classification by the Organization for Economic Cooperation and Development and include business, financial, and information services.

Note 3: Data are not available for the Russian Federation and EU members Cyprus, Estonia, Latvia, Lithuania, Luxembourg, Malta, and Slovenia.

Source: Overview of the State of the U.S. S&E Enterprise in a Global Context

A12 Gross Domestic Expenditure on R&D, by region: 2000–2015



EU = European Union; PPP = purchasing power parity.

U.S. Trend

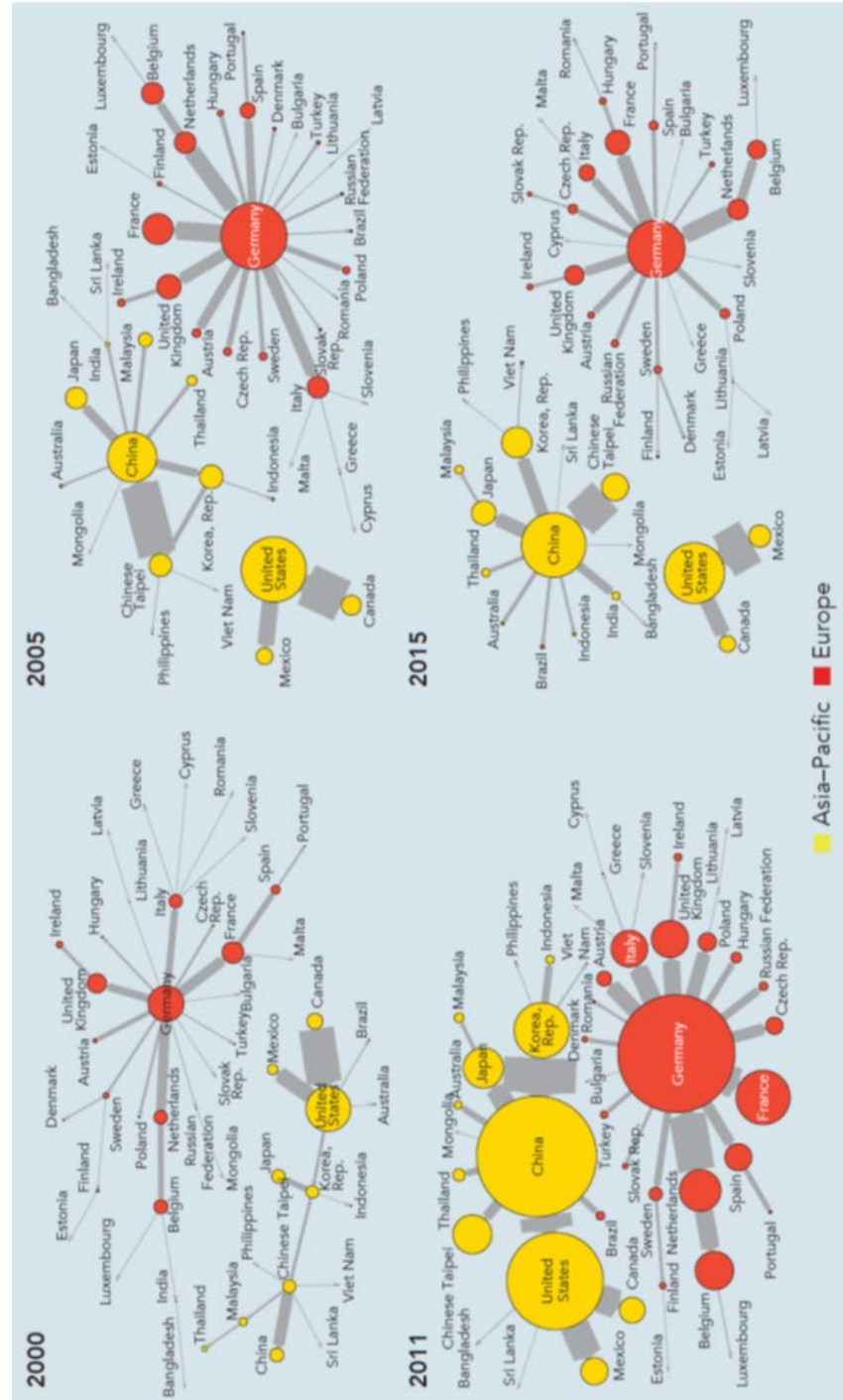
EU Trend

Note 1: Data is from the top eight research and development performing countries and the entire EU. Data is not available for all countries for all years. The U.S. and the EU are sector leaders as compared to the ROW.

Note 2: Data are not available for the Russian Federation.

Source: Overview of the State of the U.S. S&E Enterprise in a Global Context

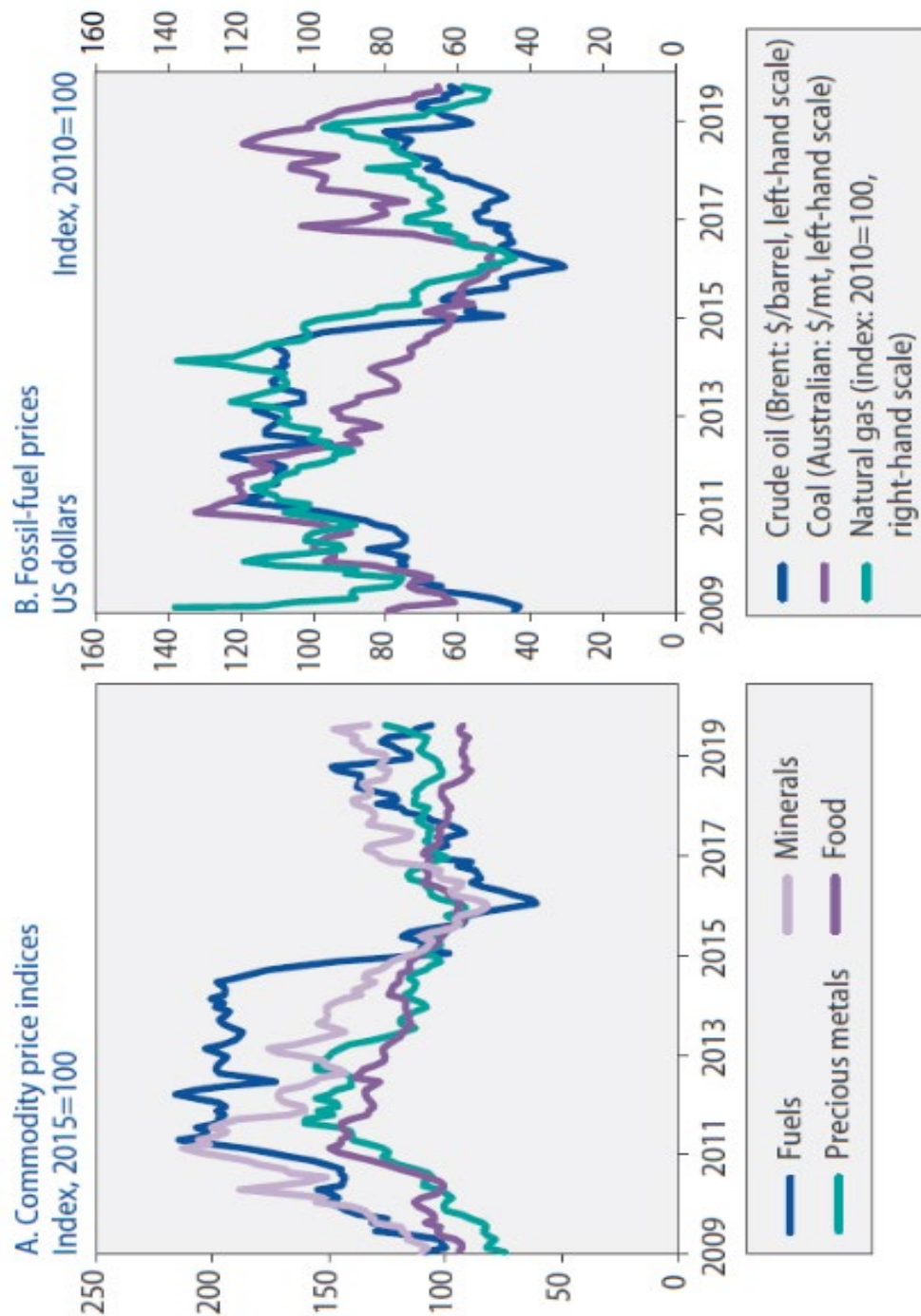
A13 Global Value Chain Analysis 2000–2015



Note: This chart shows the evolution of the Global Value Chain, demonstrating its dynamic nature and highlighting the dependency on specific supply nodes and hubs of the U.S., Germany, and others.

Source: Economics in the Time of COVID-19

A14 Major Commodity Prices, 2009–2019



Note: Both charts indicate a severe drop starting in 2014 and subsequent price instability through the beginning of the COVID pandemic.

Source: World Economic Situation and Prospects 2020

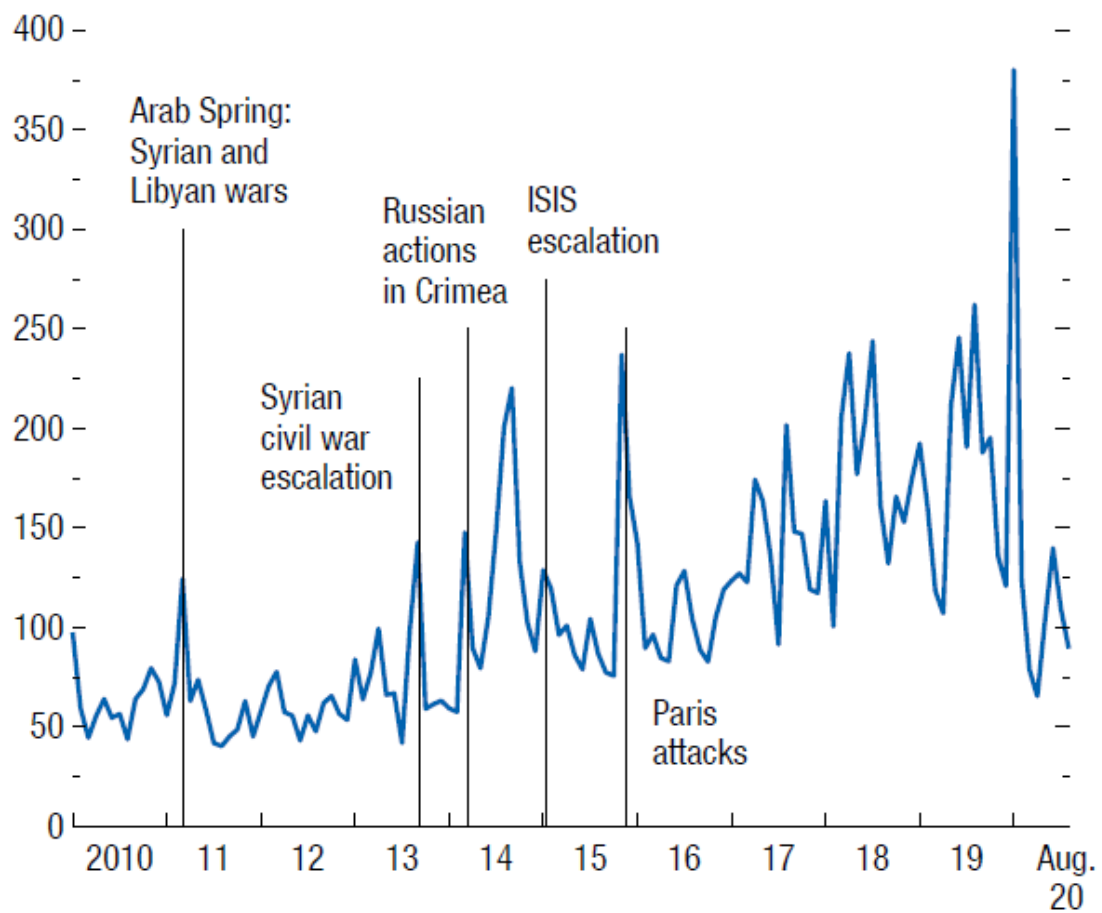
A15 UN World Energy Demand by Fuel

Percentage	Share of primary demand	Historical growth 2000–2018	Stated Policies Scenario		Sustainable Development Scenario	
			2018–2030	2018–2040	2018–2030	2018–2040
Coal	23	65	1	-1	-36	-62
Oil	37	23	8	9	-11	-32
Gas	21	57	19	36	7	-3
Nuclear	7	5	13	28	26	62
Renewables	7	111	64	125	100	215
Solid biomass ^a	6	-3	-1	-12	-77	-88
Total	100	43	14	24	-4	-7
CO ₂ emissions (Gt) ^b		44	5	7	-24	-52
Fossil fuel share (end period)	81	81	77	74	72	58

Note: This table illustrates the long-term negative trend of fossil energy-related commodities indicative of a global demand contraction for the next two decades, highlighted in red.

Source: World Economic Situation and Prospects 2020

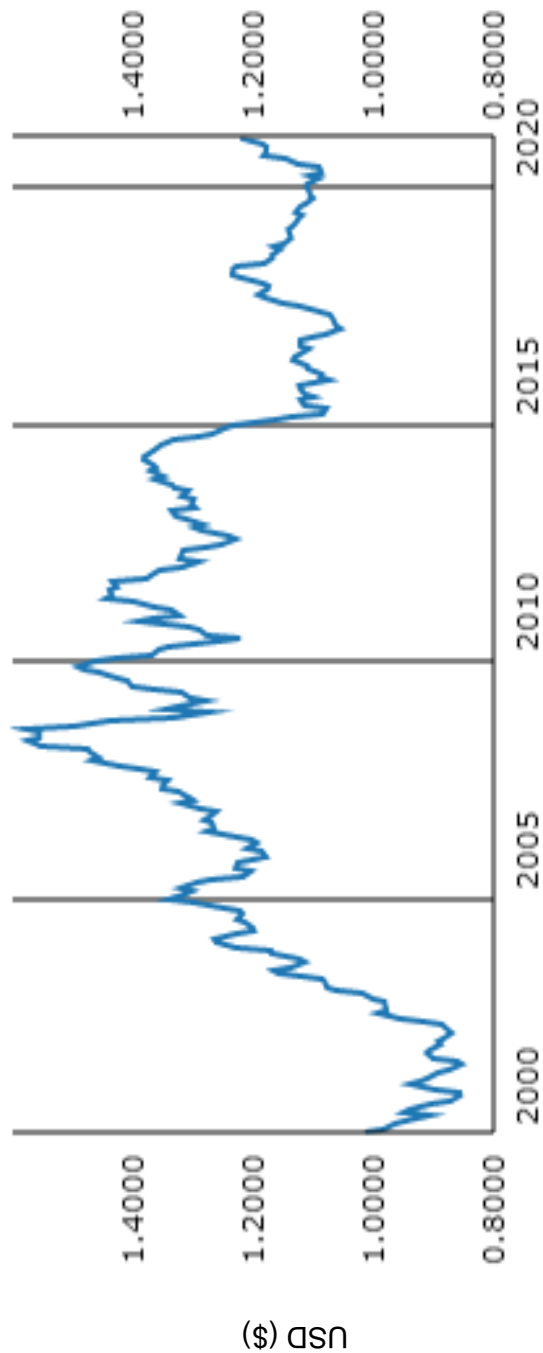
A16 Geopolitical Risk Index, 2010–2020



Note: Indices represent commercial premiums associated with risk attributable to global actors activities or isolated incidents.

Source: World Economic Outlook, A long and Difficult Ascent

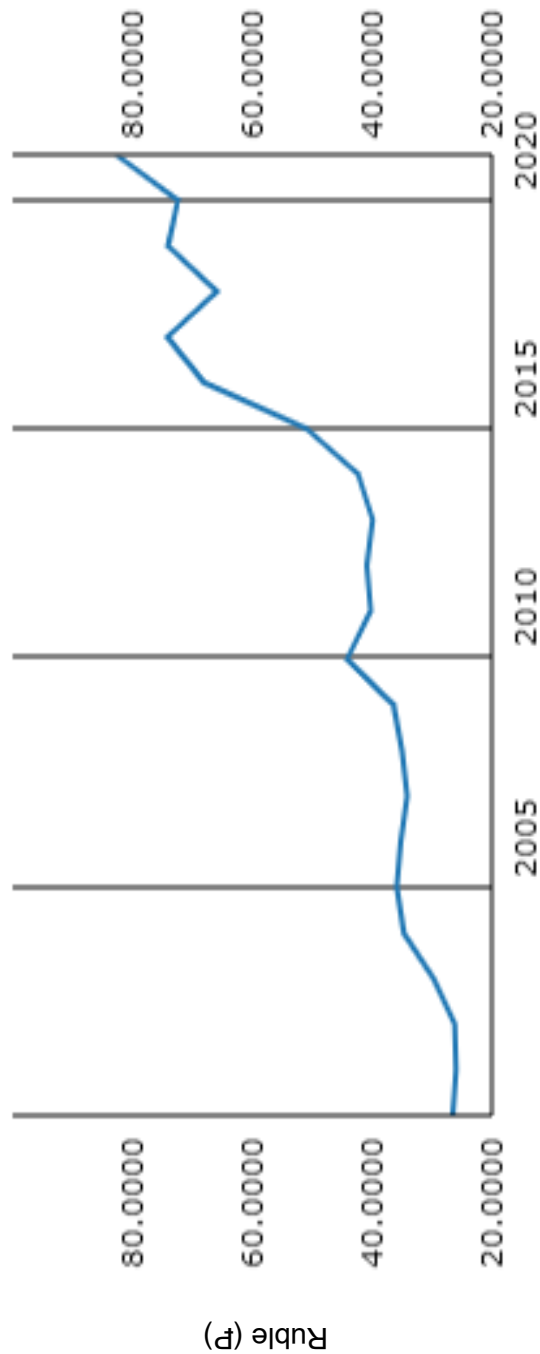
A17 Currency Valuation, Euro to U.S. Dollar, 1999–2020



Note: This figure illustrates a generally negative trend and devaluation of the euro versus the U.S. dollar in the last decade.

Source: European Central Bank Eurosystem

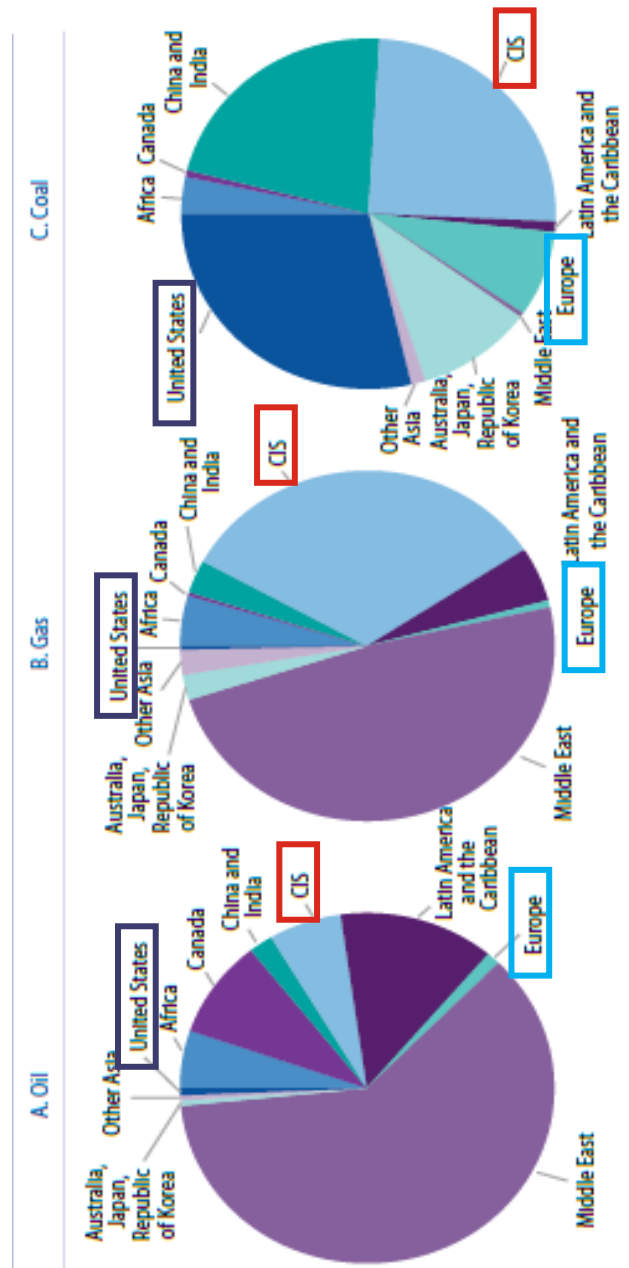
A18 Currency Valuation, Euro to Russian Ruble, 1999–2020



Note: This figure illustrates a generally positive trend and revaluation of the euro versus the Russian Federation Ruble in the last decade.

Source: European Central Bank Eurosystem

A19 UN Estimated Regional Reserve Share by Fuel Type

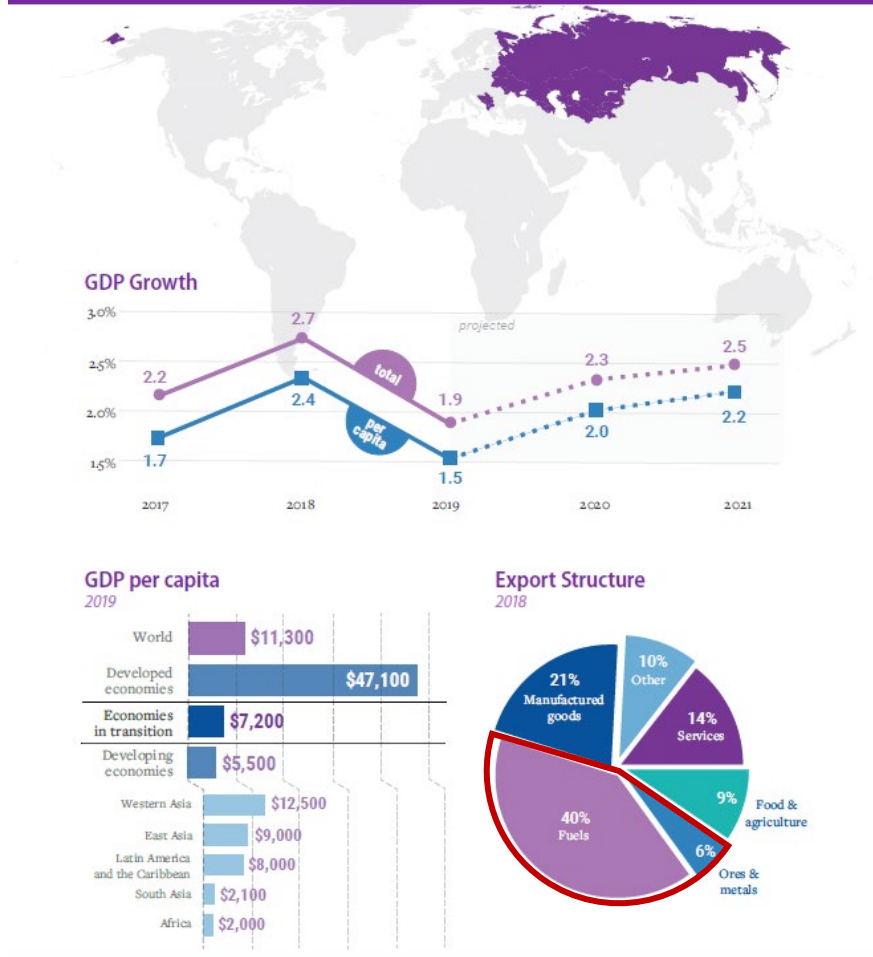


Note: Illustrates regional resource distributions of key energy commodities supplies, with the Russian Federation holding large reserves of gas and coal highlighted in red. The U.S., highlighted in dark blue, and EU, highlighted in blue, reserves require a large stable import capacity.

Source: World Economic Situation and Prospects 2020

A20 Economies in Transition

Economies in transition

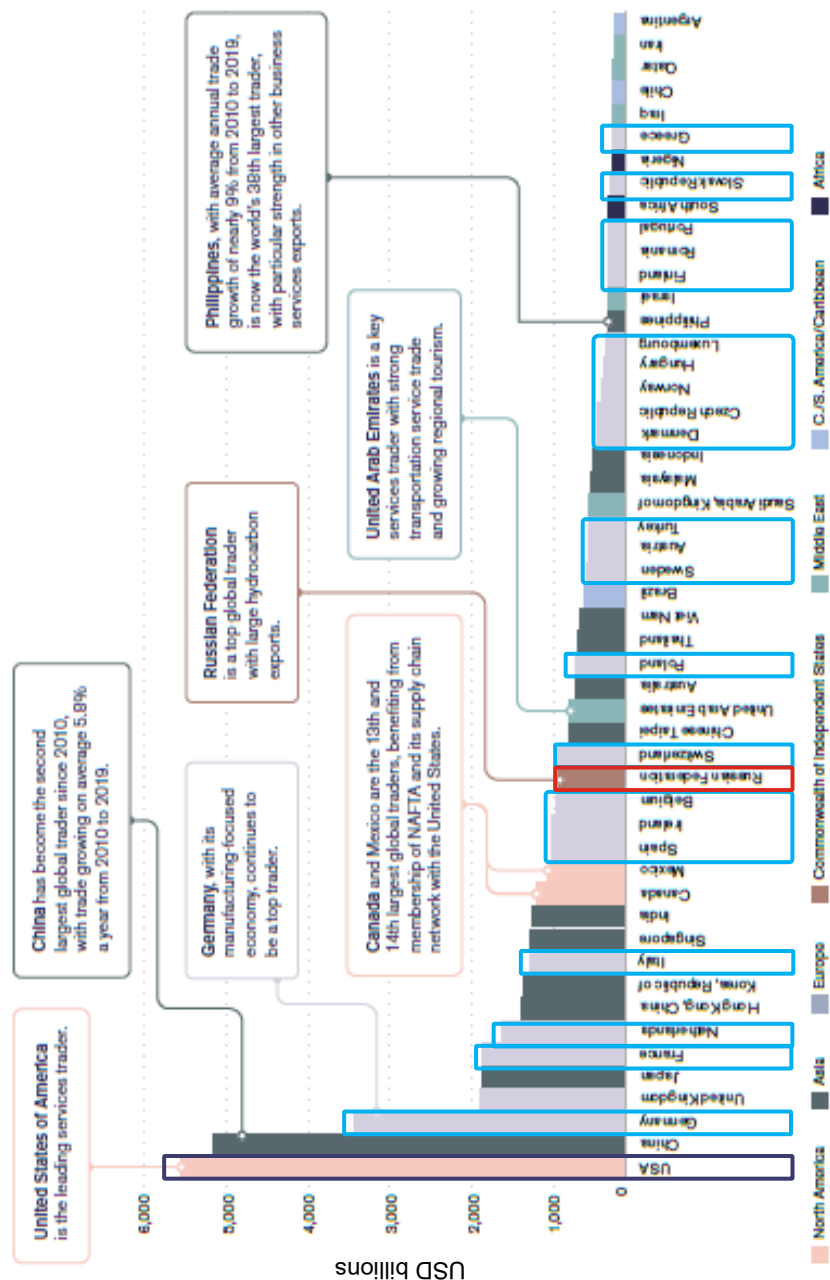


The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. The map represents countries and/or territories or parts thereof for which data is available and/or analysed in *World Economic Situation and Prospects 2020*. The shaded areas therefore do not necessarily overlap entirely with the delimitation of their frontiers or boundaries.

Note: Export structure lacks diversification, with approximately 46 percent dependent on fuels, ores, and minerals while lagging GDP per capita wealth generation, highlighted in red.

Source: World Economic Situation and Prospects 2020

A21 World's Leading Traders of Goods and Commercial Services 2019

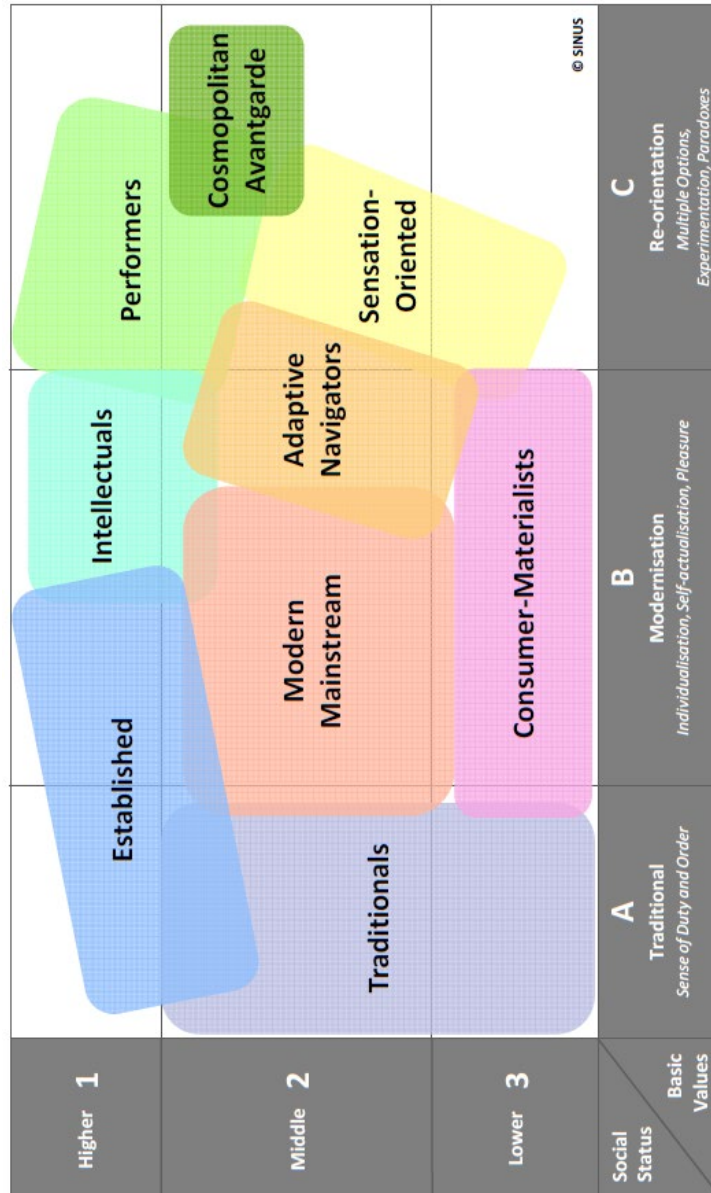


Note : U.S, highlighted in dark blue, and EU, in light blue, trade as compared to the Russian Federation, in red, represent approximately six times the imports and exports markets respectively in 2019.

Source: World Trade Statistical Review 2020.

Appendix B: Social

B1 Social Status and Basic Orientation Established Markets ¹

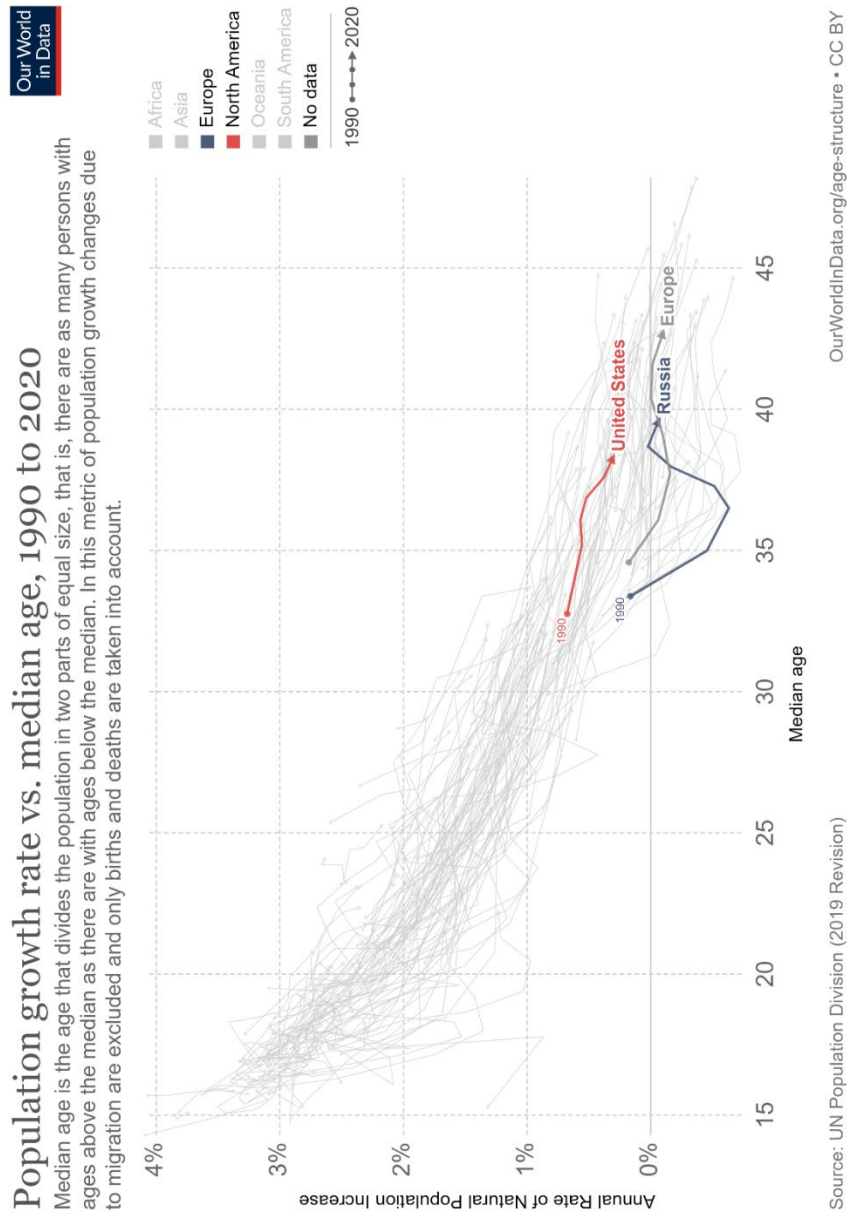


Note: The chart depicts a German marketing approach to categorize demographics according to social status and basic values. The three-decade marketing study of over 1,400 Germans found that the higher up the respective milieu in this chart associated with a higher the level of education, income, and occupational group, the less association to cultural and societal traditional values. Separate longitudinal studies confirm the general correlation of trends across countries and regions and factors of economic, cultural, political, and religious change in Europe over the last thirty years.

Source: Information on Sinus-Milieus 2018

¹ Bréchon and Gonthier, *European Values: Trends and Divides over Thirty Years.*, 17, 2–7.

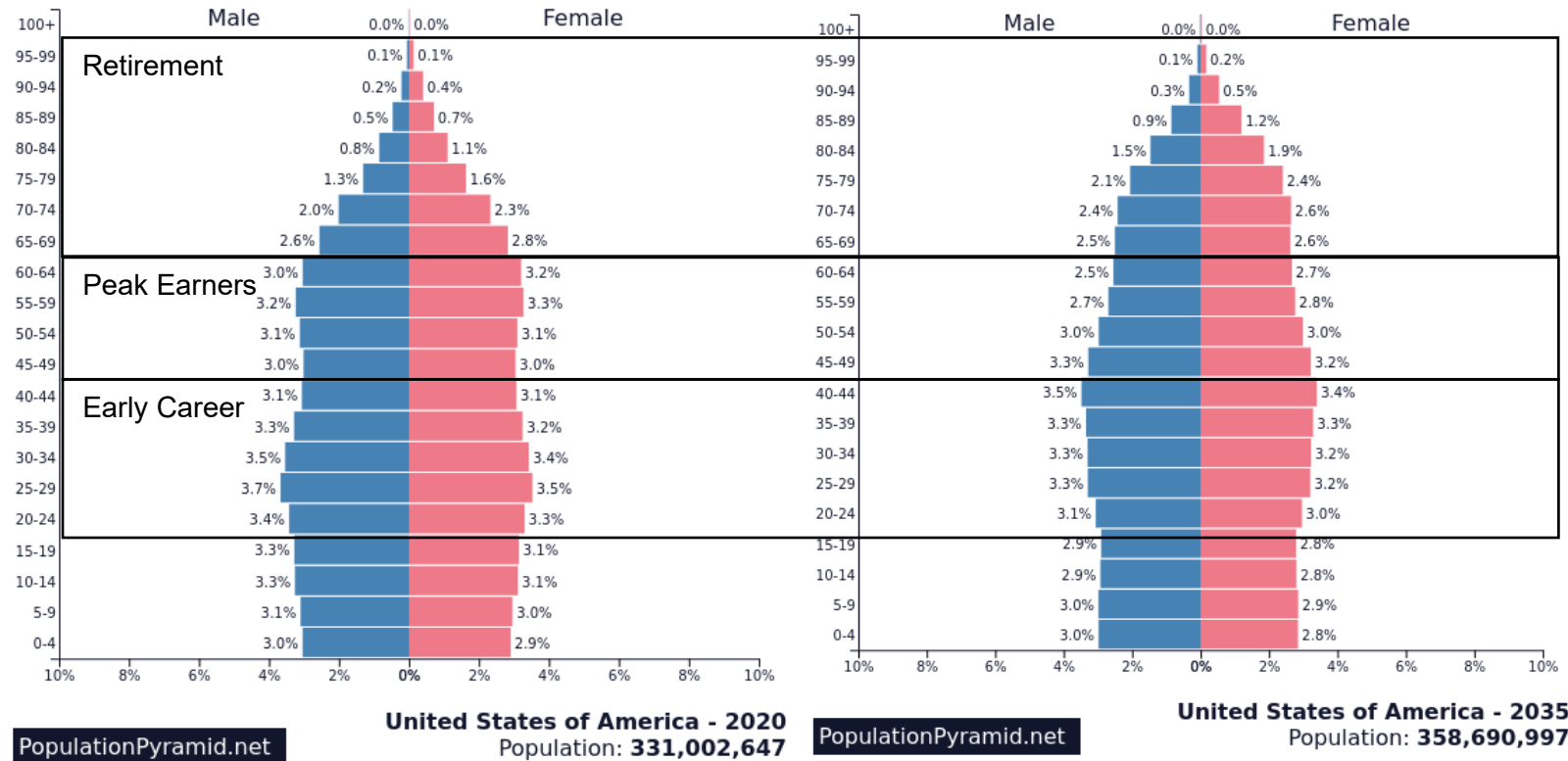
B2 World Data, Age Structure, Population Growth Rate vs. Median Age 1990–2020



Note: Comparing U.S., EU, and Russian Federation population factors. All societies are growing older, while the U.S. is the only one of the three with positive population growth, albeit slowing.

Source: Age Structure

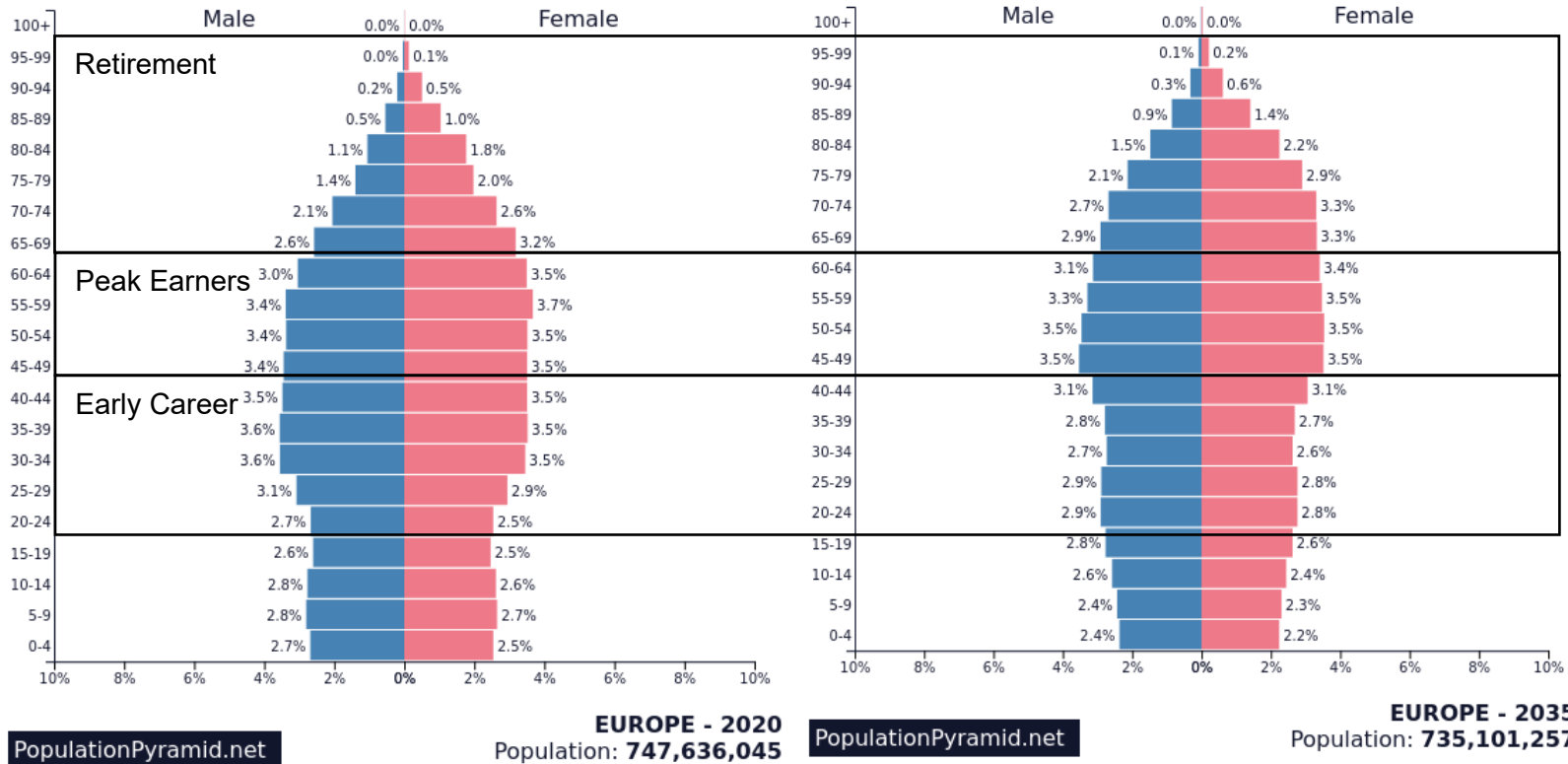
B3 U.S. Population Pyramids, 2020 and 2035



Note: The U.S. population is projected to grow older with a slowing and steady growth projection through 2035, as indicated in a stable growth trend for ages 0–19.

Source: Population Pyramids of the World from 1950 to 2100

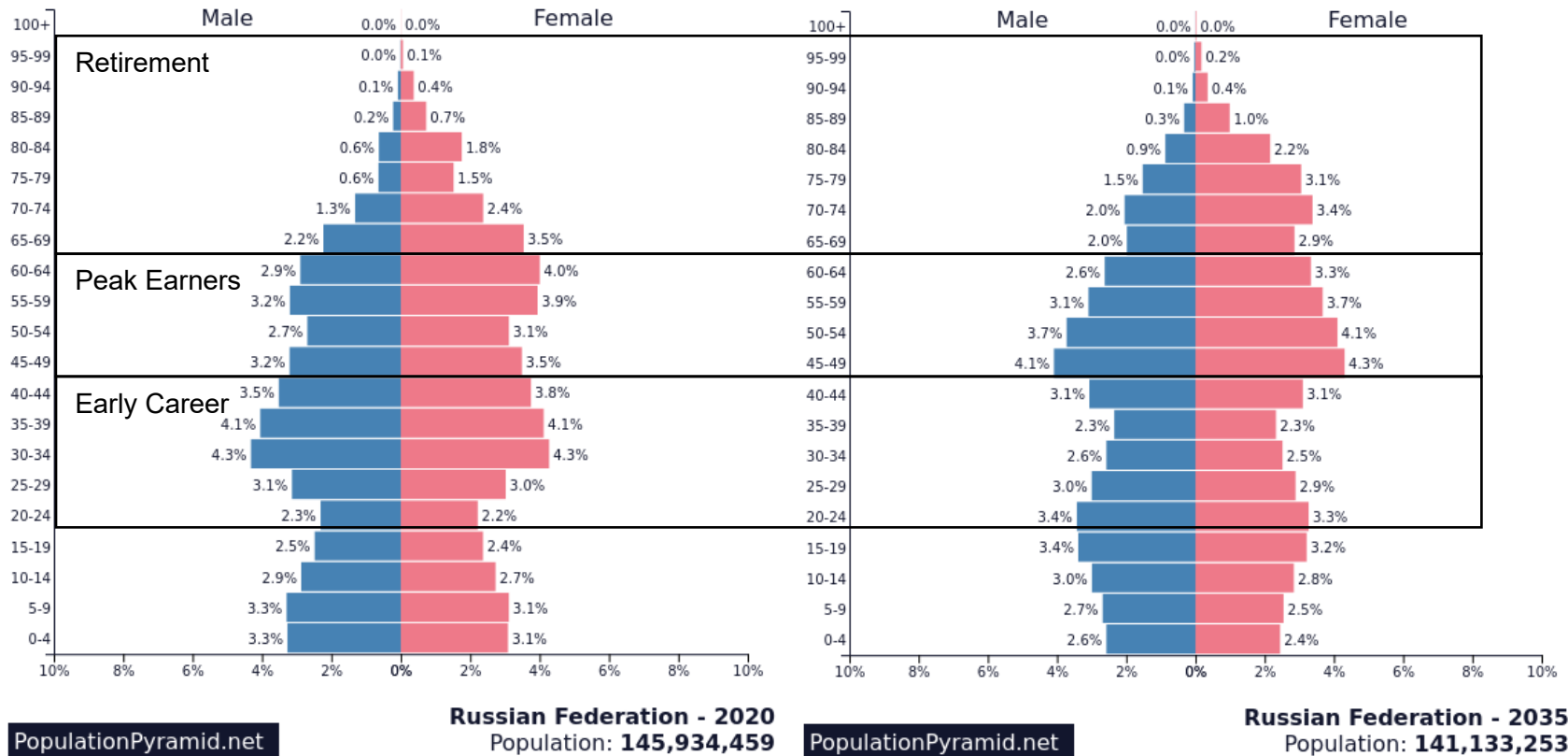
B4 EU Population Pyramids, 2020 and 2035



Note: The EU population is projected to grow older with a decreasing growth projection through 2035, as indicated in a negative growth trend for ages 0–19.

Source: Population Pyramids of the World from 1950 to 2100

B5 Russian Federation Population Pyramids, 2020 and 2035



Note: The Russian Federation population is projected to grow older with a decreasing growth projection through 2035, as indicated in a negative growth trend for ages 0—19.

Source: Population Pyramids of the World from 1950 to 2100.

B6 National Science Foundation, First University Degrees, by Selected Region, Country, or Economy: 2014 or Most Recent Year

(Number)

Region, country, or economy	Field of first university degree								
	All fields	Percent S&E	All S&E fields	Physical and biological sciences and mathematics and statistics	Computer sciences	Agricultural sciences	Social and behavioral sciences	Engineering	Non-S&E ^a
China ^c	3,413,787	48.4%	1,653,565	255,304	NA	59,796	206,239	1,132,226	1,760,222
EU	2,700,065	35.7%	963,976	186,463	86,593	42,341	264,257	387,429	1,632,788
Russia (2012)	1,406,050	31.6%	445,011	22,913	63,072	21,093	92,818	245,115	961,039
United States	1,890,941	39.2%	741,763	177,001	61,285	19,621	364,358	119,498	1,149,178

Note: EU has relative advantage of degrees conferred over the U.S. and the Russian Federation but lags other major global competitors.

Source: Overview of the State of the U.S. S&E Enterprise in a Global Context

B7 National Science Foundation, Earned Doctoral Degrees, by Selected Region, Country, or Economy and Field: 2014 or Most
Recent Year

(Number)

Region, country, or economy	All fields	S&E field							Non-S&E
		Percent S&E	All S&E	Physical and biological sciences and mathematics and statistics	Computer sciences	Agricultural sciences	Social and behavioral sciences	Engineering	
China ^b	53,653	63.6%	34,103	10,922	NA	2,382	2,262	18,537	19,550
EU	111,112	56.1%	62,347	27,746	3,629	3,883	9,667	17,424	48,765
Russia (2013)	36,533	52.9%	19,340	6,055	3,015	1,223	3,371	5,676	17,193
United States	67,591	69.7%	39,834	16,599	1,941	952	10,012	10,330	27,757

Note: U.S. has relative and absolute advantage of terminal degrees conferred over the EU and Russian Federation while leading other major global competitors.

Source: Overview of the State of the U.S. S&E Enterprise in a Global Context

Appendix C: Military

C1 SSC-8 Missile estimated Ranges



Note: Rings represent the published theoretical and operational range of the land-based SSC-8 Iskander missile, which holds all European capitals at risk.

Source: The Primakov (Not Gerasimov) Doctrine in Action

Bibliography

- Allensworth, W. "Derzhavnost: Aleksandr Lebed's Vision for Russia." *Problems of Post-Communism* 45, no. 2 (March/April 1998): 51–58.
- "An Interview with Russia's Opposition Leader: The Man Who Lived." *The Economist*, Europe, October 17, 2020. <https://www.economist.com/europe/2020/10/17/an-interview-with-alexei-navalny-assassination-survivor>.
- "Annual Report 2019." Annual. Vienna, Austria: Organization for Security and Co-operation in Europe, 2020. <https://www.osce.org/annual-report/2019>.
- Askerov, A., S. Brooks, and L. Tchantouridze, eds. *Post-Soviet Conflicts*. New York, NY: Lexington Books, 2020.
- Baldwin, Richard, and Beatrice Weder di Mauro. *Economics in the Time of COVID-19*. London, England: Center for Economic Policy Research. Accessed October 5, 2020. <http://dln.jaipuria.ac.in:8080/jspui/bitstream/123456789/7783/1/Economics%20in%20the%20Time%20of%20COVID-19%20by%20Richard%20Baldwin%20C%20Beatrice%20Weder%20di%20Mauro.pdf>.
- Banach, S. J., and Alex Ryan. "The Art of Design. A Design Methodology." *Military Review* 89, no. 2 (2009): 105–15.
- Biscop, Sven. "European Defence: Give PESCO a Chance." *Survival* 60, no. 3 (2018): 161–80. <https://doi.org/10.1080/00396338.2018.1470771>.
- . "The Future of the Transatlantic Alliance: Not Without the European Union." *Strategic Studies Quarterly* 14, no. 3 (Fall 2020): 81–94.
- Biscop, Sven, and Richard G Whitman. *The Routledge Handbook of European Security*. London, England: Routledge Taylor & Francis Group, 2013.
- Bonikowski, Bart. "Three Lessons of Contemporary Populism in Europe and the United States." *Brown Journal of World Affairs* 23, no. 1 (2016): 9–24.
- Borowicz, Aleksandra. "The European Migration Crisis: Economic and Political Factors and Challenges for the Future." *European Integration Studies* 11, January (2017): 89–97. <https://doi.org/doi:10.5755/j01.eis.0.11.18958>.
- Bréchon, Pierre, and Frédéric Gonthier. *European Values: Trends and Divides over Thirty Years*. Vol. 17. European Values Studies. Boston, MA: Brill, 2014.
- Democracy Reporting International. "Challenging the EU's Top Court: Comparing Polish and German Approaches," November 27, 2020. https://democracy-reporting.org/dri_publications/challenging-the-eus-top-court-comparing-polish-and-german-approaches/.
- Chinn, D., J. Klier, S. Stern, and S. Tesfu. "Safeguarding Europe's Livelihoods: Mitigating the Employment Impact of COVID-19." McKinsey & Company, April 2020. https://www.rhhdigital.com/docs/PRXX_Safeguarding-Europes-livelihoods-Mitigating-the-employment-impact-of-COVID-19-F.pdf.
- "Communication from the Commission to the European Parliament, The Council, The European Economic, and Social Committee and the Committee of the Regions: 2019 Communication on EU Enlargement Policy." Brussels, Belgium: European Union: European Commission, May 29, 2019. <https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/20190529-communication-on-eu-enlargement-policy.pdf>.

- Conneble, Ben, Stephanie Young, Stephanie Pezard, Andrew Radin, Raphael S. Cohen, Katya Migacheva, and James Sladden. "Russia's Hostile Measures: Combating Russian Gray Zone Aggression Against NATO in the Contact, Blunt, and Surge Layers of Competition." Santa Monica, CA: RAND Corporation, 2020. www.rand.org/t/RR2539.
- Connor, Phillip, and Jeffery Passel. "Europe's Unauthorized Immigration Population Peaks in 2016, Then Levels Off." Washington, DC: Pew Research Center, November 13, 2019. <https://www.pewresearch.org/global/2019/11/13/europes-unauthorized-immigrant-population-peaks-in-2016-then-levels-off/>.
- Constancio, Victor. "Contagion and the European Debt Crisis." *Financial Stability Review, Banque de France, Public Debt, Monetary Policy, and Financial Stability*, 16, (April 2012): 109–21.
- Davis, Christopher M. "The Russian Defence Industry, 1980–2025: Systemic Change, Policies, Performance and Prospects." In *The Economics of the Global Defence Industry*. New York, NY: Routledge Taylor & Francis Group, 2020. <http://search.ebscohost.com.nduezproxy.idm.oclc.org/login.aspx?direct=true&AuthType=ip,url,uid&db=nlebk&AN=2200158&site=eds-live&scope=site>.
- Diez, Georg. "The Migration Crisis and the Future of Europe." *American Prospect* 30, no. 2 (2019): 46–51.
- Dorr, Noel. "Why Is a German Court Undermining the European Union?" *The Irish Times*, May 28, 2020. <https://www.irishtimes.com/opinion/why-is-a-german-court-undermining-the-european-union-1.4263978>.
- Elder, Larry. *Showdown: Confronting Bias, Lies and the Special Interests That Divide America*. New York, NY: St. Martin's Griffin, 2003.
- Ellehuss, Rachel, and Donatienne Ruy. "Did Russia Influence Brexit?" *Center for Strategic & International Studies: Brexit Bits, Bobs, and Blogs* (blog), July 21, 2020. <https://www.csis.org/blogs/brexit-bits-bobs-and-blogs/did-russia-influence-brexit>.
- Statistical Data Warehouse. "European Central Bank Eurosystem." Information, January 4, 2021. <https://sdw.ecb.europa.eu/browseSelection.do?node=1495>.
- Fargues, Philippe, and Christine Fandrich. "Migration after the Arab Spring." Research. MPC RR 2012/09. San Domenico di Fiesole, FI: European University Institute Robert Schuman Centre for Advanced Studies Migration Policy Centre, September 12. <https://cadmus.eui.eu/handle/1814/23504>.
- "Global Financial Stability Report: Bridge to Recovery." Annual. Washington, DC: International Monetary Fund, October 2020. <https://www.imf.org/en/Publications/GFSR/Issues/2020/10/13/global-financial-stability-report-october-2020>.
- Greenberg, Andy. *Sandworm. A New Era of Cyberwar and the Hunt for the Kremlin's Most Dangerous Hackers*. New York, NY: Doubleday & Company, Inc., 2019.
- Gruère, Guillaume. "Never Let a Good Water Crisis Go to Waste." *www.oecd.org. Opinion* (blog), March 21, 2019. <https://www.oecd.org/agriculture/never-waste-a-good-water-crisis/#:~:text=As%20Winston%20Churchill%20was%20working,good%20crisis%20go%20to%20waste%E2%80%9D>.

- Guerrero-Solé, Frederic, Sara Suárez-Gonzalo, Cristòfol Rovira, and Lluís Codina. "Social Media, Context Collapse and the Future of Data-Driven Populism." *Profesional de La Información* 29, no. 5 (2020). <https://doi.org/10.3145/epi.2020.sep.06>.
- "Hackers Have Vaulted into the Heart of America's Government." *The Economist*, Bear Hunt, 437, no. 9225 (December 14, 2020). <https://www.economist.com/united-states/2020/12/14/hackers-have-vaulted-into-the-heart-of-americas-government>.
- Hartley, Keith, and Jean Belin. *The Economics of the Global Defence Industry*. Routledge Studies in Defence and Peace Economics. New York, NY: Routledge Taylor & Francis Group, 2020.
<http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,uid&db=nlebk&AN=2200158&site=eds-live&scope=site>.
- Heuser, B. "NSC 68 and the Soviet Threat: A New Perspective on Western Threat Perception and Policy Making." *Review of International Studies* 17, no. 1 (1991): 17–40.
- Hodges, Ben, Janusz Bugajski, Ray Wojcik, and Carsten Schmiedl. "One Flank, One Threat, One Presence: A Strategy for NATO's Eastern Flank." Policy Research working paper. Washington, DC: Center for European Policy Analysis, 2020.
- "Information on Sinus-Milieus 2018." Heidelberg, Germany: Sinus Institute Germany, October 2018. https://www.sinus-institut.de/fileadmin/user_data/sinus-institut/Bilder/Sinus-Milieus_092018/2018-10-31_Information_on_Sinus-Milieus_English_version.pdf.
- "International Migration Outlook 2020." Paris, France: Organisation for Economic Co-operation and Development (OECD), 2020. <https://doi.org/10.1787/ec98f531-en>.
- Isoda, Vytautas. "European Security Architecture after the United Kingdom's Withdrawal from the European Union: Future Scenarios." *Lithuanian Annual Strategic Review* 17, no. 1 (2019): 177–94. <https://doi.org/10.2478/lasr-2019-0007>.
- Jackson, James, Martin Weiss, Andres Schwarzenberg, Rebecca Nelson, Karen Sutter, and Michael Sutherland. "Global Economic Effects of COVID-19." Information. Congressional Research Service, December 23, 2020.
<https://fas.org/sgp/crs/row/R46270.pdf>.
- Jackson, Van. "Tactics of Strategic Competition, Gray Zones, Redlines, and Conflicts before War." *USNWC Review* 70, no. 3 (Summer 2017): 39–57.
- "Joint Operating Environment (JOE) 2035: The Joint Force in a Contested and Disordered World," July 14, 2016.
- "Joint Staff Working Document: Report on the Implementation of the 2016 Joint Framework on Countering Hybrid Threats and the 2018 Joint Communication on Increasing Resilience and Bolstering Capabilities to Address Hybrid Threats." European Union: European Commission, July 24, 2020.
<https://ec.europa.eu/transparency/regdoc/rep/10102/2020/EN/SWD-2020-153-F1-EN-MAIN-PART-1.PDF>.
- Kaldor, Mary, Iavor Rangelov, and Sabine Selchow. *EU Global Strategy and Human Security. Rethinking Approaches to Conflict*. London, England: Routledge Taylor & Francis Group, 2018.

- Kiss, Peter A. "Meeting the Gray Zone Challenge," 135–46. Budapest, Hungary: Hungarian Defense Force General Staff, Scientific Research Centre, 2017.
https://www.academia.edu/35668192/grayzoneconfer_pdf.
- Lambeth, Benjamin. "Desert Storm and Its Meaning, the View from Moscow." Santa Monica, CA: RAND Corporation, 1992.
<https://www.rand.org/content/dam/rand/pubs/reports/2009/R4164.pdf>.
- Lamoreaux, Dr Jeremy W. "Russian Activities in Europe." *Russian Strategic Intentions. A Strategic Multilayer Assessment (SMA) White Paper*, 49–52. Washington, DC: Joint Chiefs of Staff, J39, 2019.
- Maesse, Jens. "The Discursive Political Economy of Europe. Hybrid Formation of Nationalist Populism through Economics." *DiscourseNet Collaborative Working Paper Series*, no. 3 (2020).
https://pdfs.semanticscholar.org/13ed/f05d74ea1bb68fbc10c9c770285957976093.pdf?_ga=2.100308956.313928608.1609275144-151945631.1608401150.
- Maliszewska, Maryla, Aaditya Mattoo, and Dominique van der Mensbrugghe. "The Potential Impact of COVID-19 on GDP and Trade: A Preliminary Assessment." Policy Research working paper. Office of the Chief Economist, East Asia and the Pacific Region and the Macroeconomics, Trade and Investment Global Practice. Washington, DC: World Bank Group, April 2020.
<http://documents.worldbank.org/curated/en/295991586526445673/The-Potential-Impact-of-COVID-19-on-GDP-and-Trade-A-Preliminary-Assessment>.
- Mills, Claire. "The European Intervention Initiative (EII/EI2)." London, England: UK Parliament, House of Commons Library, September 23, 2019.
<https://commonslibrary.parliament.uk/research-briefings/cbp-8432/>.
- Mogherini, Federica. "Shared Vision, Common Action: A Stronger Europe." *A Global Strategy for the European Union's Foreign and Security Policy*. European Union, European External Action Service, June 2016.
https://eeas.europa.eu/sites/eeas/files/eugs_review_web_0.pdf.
- . "The European Union's Global Strategy. Three Years On, Looking Forward." European Union, European External Action Service, June 2019.
https://eeas.europa.eu/sites/eeas/files/eu_global_strategy_2019.pdf.
- NATO Secretary-General Stoltenberg. "NATO 2030: United for a New Era—Analysis and Recommendations of the Reflection Group Appointed by the NATO Secretary General," November 25, 2020.
- Oliver, Joshua. "Europe Breaks Records with Government Bond Issuance Surge." *Financial Times*. April 5, 2021, sec. World/Europe/Sovereign Bonds.
<https://www.ft.com/content/199b6227-978e-4e01-ba67-8f4dd2a072c1>.
- National Science Board: Science & Engineering Indicators 2018. "Overview of the State of the U.S. S&E Enterprise in a Global Context." Information, 2018.
<https://nsf.gov/statistics/2018/nsb20181/report/sections/overview/introduction>.
- PettyJohn, Stacie L., and Becca Wasser. "Competing in the Gray Zone: Russian Tactics and Western Responses." Santa Monica, CA: RAND Corporation, 2019.
<http://www.rand.org/t/RR2791>.

- Phillips, Christopher. *The Battle for Syria: International Rivalry in the New Middle East*. New Haven, CT: Yale University Press, 2016.
- “Population Pyramids of the World from 1950 to 2100.” Information. Accessed December 20, 2020. <https://www.populationpyramid.net/>.
- President, The Russian Federation. *Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence*. June 8, 2020. https://www.mid.ru/en/web/guest/foreign_policy/international_safety/disarmament/-/asset_publisher/rp0fiUBmANaH/content/id/4152094.
- NBC News. “Putin: Soviet Collapse a ‘Genuine Tragedy,’” April 25, 2005. <https://www.nbcnews.com/id/wbna7632057>.
- Radin, Andrew, Alyssa Demus, and Krystyna Marcinek. “Understanding Russian Subversion: Patterns, Threats, and Responses.” RAND Corporation, February 2020. https://www.rand.org/content/dam/rand/pubs/perspectives/PE300/PE331/RAND_PE331.pdf.
- Radin, Andrew, and Clint Reach. *Russian Views of the International Order*. Santa Monica, CA: RAND Corporation, 2017.
- Repucci, Sarah. “Freedom in the World 2020. A Leaderless Struggle for Democracy.” Washington, DC: Freedom House, 2020. https://freedomhouse.org/sites/default/files/2020-02/FIW_2020_REPORT_BOOKLET_Final.pdf.
- Ritchie, Hannah, and Max Roser. “Age Structure.” Our World in Data, September 2019. <https://ourworldindata.org/age-structure>.
- Roberts, Sean P., and Arkady Moshes. “The Eurasian Economic Union: A Case of Reproductive Integration?” *Post-Soviet Affairs* 32, no. 6 (2016): 542–65. <https://doi.org/10.1080/1060586X.2015.1115198>.
- Ronald Reagan Presidential Foundation and Institute. “Ronald Reagan: Remarks at the Annual Convention of Kiwanis International,” July 6, 1987. <https://www.reaganfoundation.org/ronald-reagan/reagan-quotes-speeches/remarks-at-the-annual-convention-of-kiwanis-international/>.
- Rummer, Eugene. “The Primakov (Not Gerasimov) Doctrine in Action.” Carnegie Endowment for International Peace, 2019. https://carnegieendowment.org/files/Rumer_PrimakovDoctrine_final1.pdf.
- Rutland, Peter. “The Political Elite in Post-Soviet Russia.” In *The Palgrave Handbook of Political Elites*, 273–94, 381–98, 539–62. London, England: Palgrave Macmillan; Springer Nature, 2018.
- Schwartz, Mathew, and Scott Neuman. “Russian Parliament Allows Putin 2 More Terms as President.” News. NPR, March 10, 2020. <https://www.npr.org/2020/03/10/814090121/putin-could-stay-president-until-2036-under-new-proposal>.
- “Searching for Meaning: The Covid-19 Pandemic Puts Pressure on the EU.” *The Economist*, May 14, 2020. <https://www.economist.com/briefing/2020/05/14/the-covid-19-pandemic-puts-pressure-on-the-eu>.

- SIPRI Yearbook 2020: Armaments, Disarmament and International Security*. Oxford, England: Oxford University Press, 2020.
- “Sovereign Ratings Risk 2021.” [www.countryeconomy.com](https://countryeconomy.com/ratings). Information, March 30, 2021. <https://countryeconomy.com/ratings>.
- Sweeney, Simon, and Neil Winn. “EU Security and Defence Cooperation in Times of Dissent: Analysing PESCO, the European Defence Fund and the European Intervention Initiative (EI2) in the Shadow of Brexit.” *Defence Studies* 20, no. 3 (2020): 224–49. <https://doi.org/10.1080/14702436.2020.1778472>.
- United States and Donald Trump. *National Security Strategy of the United States of America*. The White House, December 2017. <https://history.defense.gov/Historical-Sources/National-Security-Strategy/>.
- World Bank Open Data. “The World Bank Data,” January 6, 2021. <https://data.worldbank.org/>.
- Whitman, Richard G, and Sven Biscop, eds. *The Routledge Handbook of European Security*. New York, NY: Routledge Taylor & Francis Group, 2013. <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,uid&db=nlebk&AN=495953&site=eds-live&scope=site>.
- Wolters, Tod D. “United States European Command Theater Strategy,” June 2019.
- “World Economic Outlook. A Long and Difficult Ascent.” Annual. Washington, DC: International Monetary Fund, October 2020. <https://www.imf.org/en/Publications/WEO/Issues/2020/09/30/world-economic-outlook-october-2020>.
- “World Economic Situation and Prospects 2020.” New York, NY: United Nations, Department of Economic and Social Affairs, January 16, 2020. www.un.org/development/desa/publications.
- “World Trade Statistical Review 2019.” Geneva, Switzerland: World Trade Organization, 2019. https://www.wto.org/english/res_e/statis_e/wts2019_e/wts19_toc_e.htm.
- “World Trade Statistical Review 2020.” Annual. Geneva, Switzerland: World Trade Organization, 2020. https://www.wto.org/english/res_e/statis_e/wts2020_e/wts2020_e.pdf.
- WTO Data Portal*. WTO OMC. World Trade Organization, November 2020. <https://data.wto.org/>.
- Yarger, Harry. *Strategic Theory for the 21st Century: The Little Book on Big Strategy*. Letort Papers. Strategic Studies Institute, U.S. Army War College, 2006.
- . *Strategy and the National Security Professional: Strategic Thinking and Strategy Formulation in the 21st Century*. Westport, CT: Praeger Security International, 2008.
- Ziegler, Charles E. “A Crisis of Diverging Perspectives: U.S.-Russian Relations and the Security Dilemma.” *Texas National Security Review*, Great Power Competition, 4, no. 1 (Winter 2021/2020). <https://tnsr.org/2020/11/a-crisis-of-diverging-perspectives-u-s-russian-relations-and-the-security-dilemma/>.

Vita

Captain Crain, a native of Windham, Maine, entered boot camp on January 15, 1991, through Recruit Training Command Orlando, followed by training at the Nuclear Power Electrician Mates A School and Nuclear Prototype School. He was selected to attend Rensselaer Polytechnic Institute, earning a B.S. in Electrical Engineering and a commission as an Ensign in 1998. Upon completing flight training, he was designated a Naval Aviator in 2000. In 2014, he earned his MBA from the University of Phoenix.

Captain Crain's operational assignments included tours with HSL-46, USS TARAWA, HSL-45, HSM-75, HSM-48, and CSG-2. While assigned to HSL-46, the GRANDMASTERS, he completed deployments supporting Operation Enduring Freedom and Active Endeavor. Aboard USS TARAWA, he served as the Afloat Safety Officer and deployed in support of Operation Enduring Freedom and Humanitarian Assistance Operation SEA ANGEL II in Bangladesh. In 2009, he reported to HSL-45 and deployed twice, was a Plank Owner at HSM-75, and prepared the squadron for its first MH-60R deployment with CAG-11. He commanded HSM-48 for its first MH-60R deployments after transitioning from SH-60B. In his last assignment, he was responsible for planning and executing Carrier Strike Group Air Operations, the lead U.S. representative for UK CSG WESTLANT19 deployment, integral in the Naval Integrated Fires Special project, and Lead for the 2018 Maryland Fleet Week.

Captain Crain served ashore at HSL-41 as an instructor, NATO Joint Force Command Head Quarters Naples, Italy as a policy writer, a Kosovo subject lead, and Executive Assistant supporting several Leaders. He is currently a prospective graduate of the Joint Force Staff College Joint Advanced Warfighting School program.